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THE
GENESEE FARMER:

A MONTHLY JOURNAL DEVOTED TO

AGRICULTURE & HORTICULTURE,

DOMESTIC AND RURAL ECONOMY.

ILLUSTRATED WITH NUMEROUS ENGRAVINGS OF

FARM BUILDINGS, IMPLEMENTS, DOMESTIC ANIMALS,

FRUITS, FLOWERS, SHRUBS, &c.

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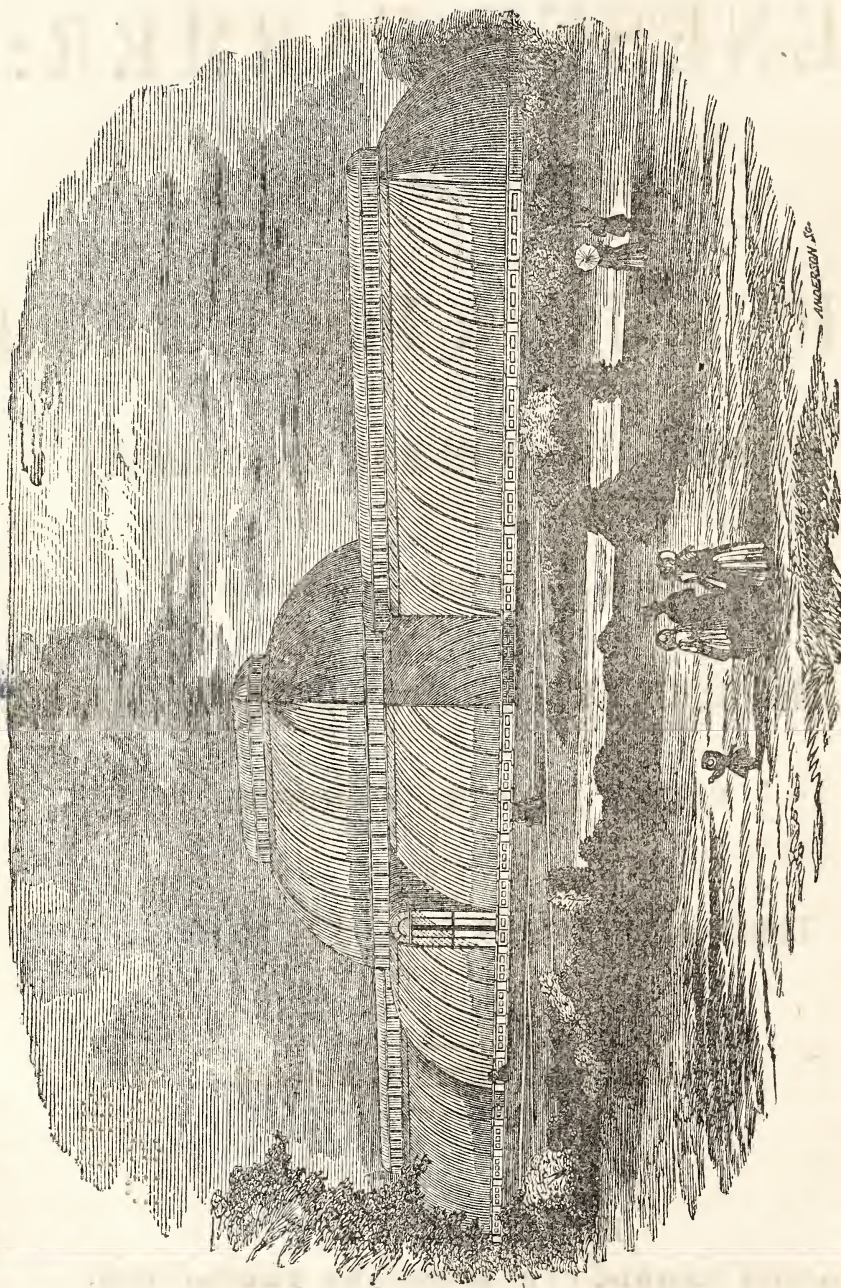
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1856.



THE GREAT PALM-HOUSE, AT KEW, ENGLAND.

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J. B. LAWES AND JUSTUS VON LIEBIG.

LIEBIG's late pamphlet on *The Relations of Chemistry to Agriculture, and the Experiments of Mr. J. B. Lawes*, has produced considerable excitement in Germany. Dr. WOLFF, Professor of Chemistry in the celebrated Hohenheim Academy of Agriculture and Forest-culture, and a man who, in the language of Mr. S. W. JOHNSON, of Yale College, unites "eminent scientific ability with practical knowledge," has written a masterly reply to LIEBIG, and enters warmly into the defence of Messrs. LAWES & GILBERT, whose scientific reputation the great advocate of the "mineral theory" has savagely assailed. This has called forth another paper from Prof. LIEBIG, and which has been translated by Mr. S. W. JOHNSON, and will be found in the *Country Gentleman* (Oct. 11—Nov. 8). The greater portion of it has only a remote bearing upon the subject under discussion. Prof. LIEBIG appears to avoid, as much as possible, the real issues of the question. When the result of any of Mr. LAWES' experiments throw doubt on LIEBIG's views, he cries out: "Must not every farmer see that conclusions founded upon experiments conducted in a manner so rough, so utterly lacking circumspection, are utterly valueless!" But when any of the results of these same experiments confirm any of LIEBIG's opinions, he tells us: "The facts which he" [Mr. LAWES] "has ascertained, teach so many important doctrines in reference to the cultivation and manuring of the soil, that I hold them to be of very special value to the theory of agriculture." And in another place he says of these "utterly valueless" experiments: "It must be acknowledged, what I said at first, that of all the investigations that have been made, none are so eminently adapted as his" [Mr. LAWES] "to advance the mineral theory." "Mr. LAWES' experiments thus demonstrate."—"The trials of LAWES confirm this view."—"Mr. LAWES has proved."—"But the experiments of Mr. LAWES furnish perfectly definite and reliable facts relative to this subject."—"The results of Mr. LAWES demonstrate precisely."—"From the result of Mr. LAWES "it is perfectly certain."—&c., &c.

To us it is "perfectly certain" that the same experiments can not be "utterly valueless" and of "very special value;" and we are quite unable to understand how "experiments conducted in a manner so rough, so utterly devoid of circumspection," can "demonstrate," or "prove," or "disprove," or render "perfectly certain" anything at all: and yet

"of all the investigations that have been made, none are so eminently adapted to advance the mineral theory." Indeed, exclaims LIEBIG, in another place, "I consider them the firmest support of the theory." This is proving too much. The mineral theory is confessedly a deduction; and the inductive experiments which are its "firmest support" are "utterly valueless."

But to the question. As we have said, Mr. LAWES found a definite increase of wheat from an application of ammonia to a soil abounding in all the mineral elements of plants. But under the most favorable circumstances he has never obtained as much nitrogen in the increase of grain and straw as was supplied to the soil in manure. He concludes from this, that in the growth of wheat there is a great loss of ammonia. Without attempting to determine the exact proportion, he states that his experiments indicate that for one pound of nitrogen (ammonia) organized in the wheat plant, five pounds are evaporated into the atmosphere, and are lost to the farm. On the other hand, his experiments with turnips, clover, beans, peas, and tares, prove that in the growth of these so-called "fallow crops" no such loss takes place. LIEBIG, as has been stated, took no notice of these views of Mr. LAWES, but Dr. WOLFF has forced them upon his attention; and in his reply to Dr. WOLFF, LIEBIG alludes to them as follows:

"In the writings of experienced agriculturists, I find as quite a general rule, that they do not hold a field rich in ammonia (freshly dunged) to be especially adapted for the cultivation of wheat, but recommend some other crop (potatoes) to precede wheat on such soils.

"But the experiments of Mr. LAWES furnish perfectly definite and reliable facts relative to this subject. He has found that a field which had previously received no ammonia nor ammonia-salts, can yield a medium harvest of 1125 lbs. wheat and 17.56 cwt. straw for seven years in succession, without any artificial supply of ammonia, and in the last years the yield was greater than at first.

"From this it is perfectly certain that a soil, otherwise good, will yield almost an average crop of wheat without an addition or excess of ammonia; and that, no matter what the quantity of ammonia may have been contained in the soil originally, and given up to the plant, or lost, this loss was without effect on the crops of the succeeding years.

"It is therefore allowable to pronounce the assertions of Dr. WOLFF—that wheat requires for perfect development more ammonia than the soil contains in natural form; that the soil suffers a loss of ammonia

by the cultivation of wheat, becoming in consequence less fertile, are wanting all foundation in fact, because the results of Mr. LAWES demonstrate precisely the contrary. * * * The erroneous assertion of Dr.

VOLFF rests originally upon the equally erroneous interpretation which Mr. LAWES has given of the fact that ammonia salts increased the yield of his wheatfield.

"While Mr. LAWES harvested 17 bushels wheat and $3\frac{1}{2}$ cwt. straw from one acre of unmanured field, annually for seven years, a plot of equal size and quality, which received in the first year 5 cwt. of dissolved bones, and 2 cwt. of silicate of potash, and in the following six years 326 lbs. of ammonia salts (the average) annually, yielded 25 bushels, or a yearly increase of 8 bushels of wheat, and a corresponding larger produce of straw.

"Now, since this plot as a part of the same experimental field, would undoubtedly have grown 17 bushels without any manure, he ascribed the increase to the action of the ammonia salts without taking any account of what had been added the first year.

"Further, since in order to produce one bushel more of wheat, than the unmanured plot would have yielded, Mr. LAWES added $41\frac{1}{2}$ lbs. of ammonia salt; and since one bushel of wheat contains 1.2 lbs. of nitrogen, and $42\frac{1}{2}$ lbs. of ammonia salts contain $6\frac{1}{2}$ lbs. of nitrogen, he harvested in the grain and straw five times less ammonia than he added to the soil. This is the fact. The false conclusion that he deduces is, that the culture of wheat is accompanied by an enormous loss of ammonia, since, at the lowest estimate, 5 lbs. of ammonia must be added to the soil in order to get one bushel of increase per acre.

"In order to draw a general conclusion from the observed fact, i. e. to be able to speak of it as a matter of settled experience, Mr. LAWES should have determined in accordance with the rules of research the general conditions which determine the production of one bushel of wheat and the corresponding amount of straw in all cases; as well as the special conditions which caused the increase in his experiments.

"If now it is true that 6 lbs. of ammonia were necessary to produce one bushel of *extra yield*, and that of this ammonia 5 lbs. were lost (evaporated through the plant), it must also be true that 6 lbs. of ammonia were removed from the soil of the unmanured plot, to produce every bushel of *ordinary yield*, and of this ammonia 5 lbs. also were lost to the soil by volatilization.

"Since now the unmanured plot yielded in seven years $123\frac{1}{2}$ bushels of wheat, it follows that the soil must have contained, or received from the air or rains, $618\frac{1}{2}$ lbs. of pure ammonia or 3850 lbs. of carbonate of ammonia (salts of hartshorn), and that in seven years this quantity of ammonia was rendered useless for future harvests by the wheat culture.

"Such a conclusion it is impossible to support by any fact. What we know with certainty is that during seven years $21\frac{1}{2}$ lbs. of nitrogen were annually removed from the soil of the unmanured plot by the crop grown upon it, or 149 lbs. in total; but how much ammonia was contained in the soil, and was consumed in the production of $17\frac{1}{2}$ bushels of wheat, we know nothing about.

"Since now, Mr. LAWES did not know how much ammonia the wheat plant requires from the soil in order to give one bushel of yield upon the unmanured plot, how could he know that for every bushel of increased yield (gain by manuring) precisely 6 lbs. of ammonia were necessary.

"If it had accidentally occurred to Mr. LAWES to manure his field with four, five, or six cwt. of ammonia salts, instead of with $3\frac{1}{2}$ cwt., and if in those cases the yield was not increased (as we may with certainty assume would happen) then he might with the same

justice assert that the loss of ammonia is 6, 8, or 10 lbs. for every bushel of increased yield.

"Or if Mr. LAWES had applied ammonia salts at the rate of 2 or 1 cwt. instead of $3\frac{1}{2}$ cwt. the acre, and then, after previous manuring with dissolved bones and silicate of potash (whose action he has not taken at all into account), had harvested the same increase of 8 bushels; his conclusion that the soil suffers a loss of ammonia, would doubtless have been vastly modified. He has made the loss and not found it. The number 5, for the amount of ammonia, and the quantity 1 bushel for the increased yield, are not expressions for a natural relation between manure and crops. The first does not express the weight of ammonia necessary to produce a maximum of increase, equal to one, and ascertained by a series of observations, but is a mere stroke of fancy. It never seems to have occurred to Mr. LAWES to determine the minimum of ammonia which was effective upon his field in producing maximum crops."

The pith of the controversy lies here; and LIEBIG puts forth his whole strength. We have rarely met with a finer specimen of special pleading. It is, however, the only portion of his lengthy paper which is to the point. The case against Mr. LAWES is stated in as strong a light as possible, and no doubt many who read only one side, will be deceived by the plausible sophistries of this greatest, ablest, and, we are sorry to add, most unscrupulous of controversialists. He seems to "stick at nothing" that will help him to make out a case. Nevertheless, we are glad that Dr. WOLFF has succeeded in forcing him to attack Mr. LAWES' main position. We have given LIEBIG's whole argument, and will now briefly examine it.

It is true, as LIEBIG states, that Mr. LAWES' soil yielded 17 bushels of wheat per acre annually for seven years, without any manure; and we may add, indeed, for thirteen years. It is also true that mineral manures—the ashes of the wheat plant—alone, do not enable it to produce any larger crop. It is further true that 17 bushels "is almost an average crop of wheat." On the other hand, it is also true that where this same soil has been annually supplied with ammonia *alone*, much larger crops have been obtained—on an average of seven years, as LIEBIG admits, *half as much again*; and, we may add, last year (1854) as much as $31\frac{1}{2}$ bushels per acre were obtained; and this, it must be observed, after ten successive crops had been grown (and removed from the soil) by the aid of ammonia alone. The province of Agricultural Chemistry, LIEBIG tells us, is to produce *more* grain and *more* meat, and not simply grain and meat which have been produced for centuries without her aid. We fully agree to this; the object of agriculture is not to maintain merely, but to *increase* the productiveness of our fields. How can this be done? LIEBIG says truly that the 17 bushels of wheat annually grown on Mr. LAWES' experimental field, by the aid of good tillage alone, is "almost an average crop." But the object of Agricultural Chemistry, according to LIEBIG, is to *increase* the productiveness of our fields. This Mr. LAWES has done. Instead of 15 or 20 bushels of wheat per acre, he has grown 30 and 40 bushels, and in 1854 as high as 55 bushels; and, in a private letter recently received, Mr. LAWES informs us that some of the plots this year (1855) *more than double* the unmanured plot, the yield on which is still 17 bushels per acre.

On this soil, by good tillage alone, 17 bushels of wheat are annually grown. The object is to get a heavier crop. It was supposed that "as the crops on a field diminish or increase in exact proportion to the diminution or increase of the mineral substances conveyed to it in manure," that superphosphate of lime, potash, soda, lime, magnesia, sulphuric acid, chlorine, and soluble silica, or the ashes of the wheat plant, would increase the crop; but they did not. LIEBIG's patent wheat manure was also tried in vain. But ammonia, in whatever form used, increased the crop. Six pounds of ammonia gave an extra bushel of wheat. But this extra increase only contains nitrogen equal to one pound of ammonia, and it is supposed that the remaining five pounds are evaporated through the plant, and that this loss of ammonia is necessary to the growth of the plant, or, at all events, there are at present no other known means of enabling the farmer to increase his wheat crop over 17 bushels per acre.

LIEBIG denies that any loss of ammonia takes place; but he has no evidence, aside from Mr. LAWES' experiments, on which he bases his denial. His argument is this:—If the plot without manure produces 17 bushels of wheat per acre, and one with 102 lbs. of ammonia 34 bushels, and if the increase is due to ammonia, it follows that the 17 bushels grown on the unmanured acre must also have required and removed from the soil 102 lbs. of ammonia. This we most fully admit. But LIEBIG says: "Such a conclusion it is impossible to support by any fact." This is his whole argument. It is "impossible" that the soil should contain, or that the rain and air should supply such a quantity of ammonia. A strange argument this, to be made by the very man who taught that if plants were supplied with a sufficient quantity of mineral elements in an available condition, they would obtain all the ammonia they required, from the atmosphere; and that, in the language of Prof. HORSFORD, "the ammonia spread on fields in the ordinary distribution of barn-yard products, is of no moment. The quantity with usual falls of rain greatly exceeds, in the course of a season, any conceivable supply by human instrumentality." Now that it suits LIEBIG's purpose, we are told that it is impossible that the soil, the atmosphere, and the rain combined, could supply 102 lbs. of ammonia—an amount contained in 600 lbs. of Peruvian guano, or in 5 tons of good, or 10 tons of poor, barn-yard manure! Furthermore, LIEBIG, in his *Chemistry in its Application to Agriculture and Physiology*, when speaking of the quantity of ammonia brought to the soil in rain water, says: "If a pound of rain-water contains only one quarter of a grain of ammonia, then a field of 26,910 square feet must receive annually upward of 88 lbs. of ammonia." An English acre contains 43,560 square feet; and according to this estimate, which we are given to understand is a low one, 142 lbs. of ammonia are brought to an English acre of soil by the rain which falls in twelve months. This estimate was made to show that farmers need not be at any pains to provide ammonia for their crops, as the atmosphere would supply a rich abundance—and, indeed, 142 lbs. of ammonia would provide more nitrogen than the grain and straw of the heaviest wheat crop contains! Now, when Mr. LAWES contends that the atmosphere and rain-water can not supply the wheat

plant with sufficient ammonia for a large crop, because *it destroys ammonia during its growth*, LIEBIG turns round and oracularly declares this destruction "impossible," because "the soil" [of the unmanured wheat plot] "must have contained or received from the air or rain, in seven years, 618½ lbs. of pure ammonia." In other words, it is impossible this destruction should take place, because the soil, the air, and the rain combined, can not furnish in a year 88½ lbs. of ammonia per acre, while, according to LIEBIG's own estimate, the rain-water alone furnishes 142 lbs. of ammonia. It is difficult to argue with a writer who resorts to such pitiable subterfuges.

(To be concluded next month.)

NEW YORK PREMIUM FARMS FOR 1854.

THE last volume of the *Transactions of the New York State Agricultural Society* contains an account of the farm management of W. P. OTTLEY, Phelps, Ontario county, and of G. W. COFFIN, Amenia, Dutchess county, N. Y., to whom the society awarded the first and second premiums on farms.

Mr. OTTLEY's farm contains 100 acres;—soil, a gravelly loam and muck with a tincture of clay; subsoil about the same, with a lighter color, and porous. Mr. O. says:

"I consider the best mode of improving my soil is a three year lay of clover, turning it under about the month of June for wheat, or the first of May for corn, with the application of barn-yard manure."

Is not clover apt to die out the third year? and would it not, therefore, be better to plow it up the second instead of the third year, as there would be more clover to turn under? If this is cropping the land too heavily with grain crops, the barley, instead of being followed by wheat, could be seeded down for a year or two with clover. Will our readers give us their experience on this point?

Mr. O. usually plows from seven to ten inches deep. He has used the "subsoil plow," as it is termed in the report, but which, as we learned by corresponding with Mr. OTTLEY, is in reality the Michigan double plow—a very different implement from the true subsoil plow, which only breaks up the subsoil without bringing it to the surface. *The first crop after the subsoiling was unusually light*, but the succeeding crops were productive, and the results on the whole satisfactory. Mr. O. has not tried true subsoiling, but intends to do so, and thinks that he will obtain in this way the benefits arising from a deep soil without diminution of crop the first year.

Mr. OTTLEY's method of cultivating corn is as follows:

"Take a three year lay of clover, cover it with manure if possible, break it up immediately before planting with a double plow, eight inches deep, harrow with light harrow to avoid tearing up turf, then drill three and a half feet in width of row, dropping one kernel at eight inches in row, together with ashes and plaster; then roll, and as soon as up pass through with one-horse cultivator. Continue to cultivate till the middle of June; hoe once; cut up about the first of September, five rows into one, shocks large, as the stalks will be of a better quality; husk during fall; product usually 50 bushels per acre."

Is it better to plant corn in drills, as above, or in hills, three and a half feet each way, four kernels in the hill, horse-hoeing each way?

"Barley is sown on corn stubble, plowed as early as possible; seed drilled in, two and a half bushels per acre, from the first of April to the first of May. Product from 25 to 50 bushels per acre."

The method of cultivating land for wheat is not given, except when it is sown after barley, when it is as follows:—plow as soon as the barley is off, with double plow, from eight to ten inches deep, in lands two rods wide; harrow fine just before time to sow; drill in the seed, two bushels per acre; clean out furrows and water furrows. Product usually from 25 to 35 bushels per acre. Clover and timothy seed are sown with the wheat.

Oats are drilled after corn as soon as the land can be got in good order, three bushels of seed per acre; cut when fully ripe with reaping machine, bind, and stock the same as wheat. Product about 75 bushels per acre.

Potatoes and carrots are cultivated as follows:

"One potato in each hill, split; plant as early as possible, harvest when fully ripe. Usually plant but one acre in corn-field; use no manure; hoe once; product light, owing to the prevalent disease.

"Carrots—sow thick in drills eighteen inches apart; plow ground, manure high with rotted manure, sow the first of June, hoe as soon as up; continue to hoe and thin out till the weeds cease to trouble. Product from 600 to 800 bushels per acre."

Mr. ORTLEY also obtained the second premium for experiments in draining, there being none offered which were considered worthy of the first premium. Surely this is not a true indication of the estimation in which underdraining is held in the great State of New York! Mr. O. laid 200 rods of stone drains in nine acres, and the result was quite satisfactory. He says:

"The increased value of the land, taking the field (twelve acres) together, I estimate at \$5 per acre annually, better than before its being drained. It is safe reckoning that draining will pay for itself with interest of cost in two years."

Mr. O. also laid down 100 rods of tile underdrains, from two to two and a half feet deep, and four inches wide at bottom. The cost was, for digging, 12½ cents per rod; tile on ground, 16 cents per rod; laying and filling, 3 cents; total, 31½ cents per rod. The drain laid with stone cost, for digging, 20 cents, and for laying the stone and filling, 20 cents; total, 40 cents per rod, or 8½ cents more than the tile drains. Unnecessarily high as is the price of tiles, it pays better to use them than stones in most cases.

THE FARM OF G. W. COFFIN.—The farm of Mr. COFFIN, which obtained the second premium, contains 108 acres, two-thirds of which is a limestone loam, and the other third black slate. Like Mr. ORTLEY, Mr. C. looks to clover or "grass" for increasing the fertility of the soil. He says:

"The best mode of improving the soil is to keep it stocked down to grass, taking care in pasturing not to allow too close feeding off, and such portions as have furnished the winter stock of hay, should receive a dressing of manure, as soon after the hay has been removed as convenient. August is the best time. A thick mat of grass left on the land in autumn, answers the double purpose of protecting it from the searching wind and biting frost, affording a rich bed of manure as well adapted to its growth as any that can be applied. Barn-yard manure is an invaluable source of improvement. A complete and thorough breaking

down of the soil when preparing it for crops, especially for seeding to grass, seeding with a bountiful supply of timothy and clover."

Mr. C. made some experiments with artificial manures on grass, which are worth recording. Soil, tenacious limestone loam, old sod of red top, June grass, and white clover. The results were as follows:

	lbs. hay per acre.
Without manure of any kind.....	2,000
400 lbs. of Peruvian guano, costing \$10.....	4,080
800 lbs. plaster, costing \$2 60.....	2,480
400 lbs. superphosphate of lime, costing \$10.....	3,040
Unleached ashes, 20½ bushels, costing \$3.31.....	3,840

The ashes are much the most profitable manure for grass in this instance. There can be no doubt that the continued exportation of hay from a farm tends greatly to exhaust it of potash, mere so, perhaps, than any other crop except potatoes; and it is therefore reasonable to suppose that unleached ashes, containing so much potash, would have a good effect. But if the ashes were beneficial because they supplied potash, to what shall we attribute the increase obtained from the guano, which contains scarcely any potash? If we could place full confidence in the experiment, we should conclude that the ashes acted by accelerating the decomposition of organic matter in the soil, and rendering ammonia available.

An experiment was made on potatoes with the following result:

Ten hills without any manure gave.....	13 lbs.
" with handful of fresh ashes.....	0½ "
" with handful of compost hen manure.....	19½ "
" with handful of plaster.....	19½ "

The manures were applied in the hill at the time of planting; the ashes proving too strong, but each of the others increased the yield at the rate of about 50 bushels per acre.

Superphosphate of lime was used on corn "without any apparent effect," while "plaster increased the growth greatly." And yet superphosphate contains a considerable quantity of "plaster." It should at any rate have increased the growth to the extent of the "plaster" it contains. We fear such experiments are not very reliable. 200 lbs. of guano applied to oats "advanced their ripening about six days." The same amount of superphosphate "had no apparent effect."

An experiment in suckering corn showed that it did neither good nor harm.

After six years' careful experimenting, Mr. C. is "compelled against all former notions" to believe that corn for seed should always be taken from the small end of the ear; that from the large end, however, he finds better than that from the middle.

Mr. C. usually grows about two acres of corn for feeding green in August and September, when the pastures become short.

He turns over green sward from first of June to tenth of July, and sows at intervals of two weeks. Makes broad furrows, three feet apart, and scatters from fifty to sixty grains to the foot covering by passing the harrow once across the furrows.

"Four times as much cured fodder," he says, "can be produced in this way as is generally taken from the same amount of ground in hay."

Mr. C. thinks "Indian corn is the most reliable crop, and though requiring a greater amount of labor, is still one which pays the producer a higher per centage than any other." His method of cultivation is as follows:

Usually plow sod land that has laid from eight to ten or even fifteen years. If the land is naturally dry, turn the furrows flat; if heavy and inclined to be moist, lap the furrows. Plow from four to six inches deep, harrow lengthwise of the furrows, and mark with a drag, three feet apart each way for medium sized varieties of corn, and further apart one way for larger. Distribute from four to six grains *about* in the hill, and cover one inch deep. Plant about the 10th of May, eight quarts to the acre. After trying various methods of preparing seed corn by soaking and rolling in different substances, I have abandoned the whole, and plant as it comes from the cob. Prefer applying stimulants on the young plants as soon as they make their appearance; use plaster and ashes—one part of the former to two of the latter, mixed—a small handful applied to two hills. I have thrown the plow aside in cultivating, and use a steel tooth cultivator twice in a row each way; have a man follow with a hoe to set up the injured corn and attend to such weeds and grass as are in and near the hill. As soon as it attains to the height of about six inches, have all hills containing more than four spears thinned to that number. Apply plaster and ashes in about the same quantity as at first, and by the time the corn is twelve to fifteen inches high it has received its last cultivation by horse power. In case of a wet July weeds start up some, but are taken out either with the hoe or by hand. The sod lies as it was turned in the spring, its inverted surface having been moved for a few inches deep only.

"I have tried experiments in harvesting, and find that the most grain is obtained by cutting at the ground and stouting (or stooking) if it is done at the right time. A little observation will decide when that is, as the corn becomes glazed, husks turn white, and the leaves die along the edges—usually from the 10th to 20th of September. Put twenty-five hills in a stout, and on husking make two bundles of each. Secure the stalks as soon as possible after husking."

Mr. C. has used the subsoil plow on a portion of several fields of different soils and for different kinds of grain; but except in one instance, although several years have since elapsed, there was "no perceptible difference in the yield or growth at any time." The exceptional case was:

"In a field on another part of the farm, less loam and more clay in the soil; used the subsoil plow to about the same depth (18 inches) on one land only; sowed the whole lot to oats, and could see soon after they came up that on the land subsoiled they looked yellow and sickly for the first two weeks, but then began to improve, keeping on until they presented the same appearance as the rest of the lot, no one being able to perceive any difference up to the time of harvesting. On gathering, the difference was so apparent that one could have almost told with his eyes shut as soon as he came to this land. Although there was about the same growth of straw as on other portions, yet the bundles were much heavier and heads better filled. The amount produced by subsoiling must have been as much as eight bushels to the acre more than where the common plow was used only. No perceptible difference in the grass this last summer."

We have no means of knowing from the report, but we opine that Mr. C. used the true subsoil plow, and not the double plow used by Mr. ORTLEY.

There are many other interesting points in Mr. COFFIN's practice to which we might allude did our space permit. We will conclude with the following extract in regard to the neglected subject of irrigation:

"There is a never-failing stream of hard water running through the middle of my farm, a distance of one

hundred and thirty rods, and in that distance falls sixty feet. It is taken from its entrance on the farm, and conveyed in an open ditch along the sloping grounds that descend towards the natural stream, and turned out so as to spread over about five acres of meadow. These meadows are near the barn, and are fed down in the fall and spring until they exhibit a prospect of no great yield of hay. The water is turned on generally the first week in April, and changed from week to week to different places, until the fore part of June, when it is allowed to spread out upon a pasture lot.

"So enormous has the growth of grass become by the last of June, that we often cut the heaviest portions and secure them before the month is out. Three tons per acre have been cut from the watered portions, while that adjoining, without water or irrigation, would scarcely yield a ton, though the soil and grasses were of the same nature."

There are hundreds of farms where the same system of irrigation might be practised with equally gratifying results.

SOOT AS A MANURE.—Soot is used in England to considerable extent as a manure for wheat. It contains much ammonia, and BOUSSINGAULT attributes its high fertilizing effect to this ingredient. The experiments of the late Professor ANDERSON showed soot to be a valuable manure for wheat, for timothy, and for other grasses, *while it had no good effect on clover.*

THICK AND THIN SOWING OF WHEAT.—A seed firm in England, HARDY & SON, of Waldon, Essex, who are advocates of thin seeding, give the following tabular statement, showing the distances required for planting or sowing various quantities of wheat grain:

There are from 16,000 to 20,000 grains of wheat contained in one quart, or 608,000 to 640,000 in one bushel, and 6,272,640 square inches are one statute acre of land. Taking the latter number as a rule, it necessarily follows that about 10 square inches are thus allowed for each grain, admitting all the land to be sown uniformly without furrows, or 14 grains on each square foot, or 132 on each square yard, or 4000 on each square rod, at one bushel of seed for an acre. The following simple tabular form will, we trust, serve to show the different distances from each plant, at this ratio, from more or less quantities of seed, which may or may not be thought most proper to be sown by any of our agricultural friends. For general sowing on a large scale we ourselves think proper to draw a line of distinction, say one bushel or somewhat less for an acre, avoiding either extremes; bearing in mind, however, the fact and possibility of growing a large amount of produce from a small quantity; and the impossibility of reaping an average crop from a full plant of a large quantity of seed.

Per Acre.	Grains for an acre.	Grains for a rod.	Grains for a yard.	Grains for a foot.	Inches for each grain.
3 bush.* gives about	1,920,000	12,000	896	44	4
2 " "	1,280,000	8,000	264	29	6
1 " "	640,000	4,000	132	14	10
2 pecks	820,000	2,000	66	7	20
1 " "	160,000	1,000	33	3½	40
¾ " "	80,000	500	16½	1¾	81
½ " "	40,000	250	8¼	1	162
¼ quart	20,000	125	4	0	324
1 pint	10,000	62	2	0	649
½ " "	5,000	31	1	0	1299

* At 20,000 grains in a quart, and 6,272,640 inches in an acre.

† Omitting fractions.

MANURE SHOULD BE WELL MIXED WITH THE SOIL.

THE *Country Gentleman*, in alluding to several large ruta bagas reported in that paper, says:

In the year 1886, when the ruta бага crop was much more extensively cultivated in Western New York than at present, a root was selected from a crop raised by Wm. R. SMITH, of Macedon, Wayne county, which weighed *fifteen pounds*—and from a crop raised by EDWARD S. TOWNSEND, of Palmyra, in the same county, three were found of equal size to this, and one which weighed *eighteen pounds*. It would apparently not go into a peck measure. The soil was very deep and fertile, being the site of an old removed stable, the season was very favorable, and *plenty of room* was given for growth—a thing too often neglected, and which the ruta бага especially needs. Several square rods yielded at the rate of 1200 bushels per acre—the piles of these monsters were indeed striking. The weighing was done in the presence of one of the editors of this paper. * * * These show the great importance of a very highly enriched, and still more of a *well intermixed* soil, for the *same amount* of manure as existed on the site of the old stable, applied in the common way in the season of sowing, would certainly not have produced one-third the size, as multitudes of experiments have proved. We should be glad if our scientific agriculturists, in the course of their reasonings and discussions on the relative value of yard manure and guano, would take into consideration the *manner of application to the soil*. For it will be reasoning to no purpose, to go into a calculation just how many miles and rods it will pay to draw manure, without knowing whether, when it reaches its destination, it is to be thrown on the top of the earth, and perhaps half of it plowed under in lumps as large as a fork-full, and there remain; or whether it is finely pulverized and thoroughly intermixed by repeated harrowings and occasional plowings. Where the latter mode of treatment is thoroughly applied, the effect of a ton of yard manure is often at least *quadrupled*, when compared with the ordinary careless manner of burying—such at least is the result of the experiments we have witnessed. And the superiority of old enriched soil with the fertilizing ingredients completely diffused, as in the ruta бага crop above mentioned, amply corroborates the opinion.

Prof. WAX, in one of his lectures before the Royal Agricultural Society of England, alluded to this subject. His experiments, he said, showed that the soil was no idle spectator of what took place in it; that it was not a mere meeting place for the roots of plants and the food they were to grow upon, but that it was actually the stomach of the plant. Or he might go further, and say, that nature had actually given to the soil the function and office which in animals is performed by the gastric juice and the chyle—that of preparing and digesting the food of plants. This is perhaps somewhat fanciful, but that it is very advantageous to thoroughly incorporate manure with the soil, no observing farmer can doubt. This can not always be safely done by, "repeated harrowings and occasional plowings," inasmuch as under ordinary cases they would drag to the surface decomposing manure, and expose it to much loss. Yet every farmer should be convinced that it is desirable to mix the manure as much as possible with the soil, whenever it can be accomplished without loss or inconvenience. At any rate, more care should be exercised in spreading, shaking out, and plowing under the manure.

For root crops, it has always been recommended to ferment the manure to a considerable extent before its application. The reason for this rule laid down by practical men, is probably to be found in the fact that thoroughly decomposed, or what the London gardeners term "spit" manure, (because it is cut with a spade,) can be more easily mixed with the soil. A practical English farmer is in the habit of applying manure to the land intended for turnips, soon after harvest, in the fall, plowing it in, and giving the land two or three plowings and harrowings before the turnips are sown in the spring. He has found from experience that this is the best method of using manure on his soil, which is rather heavy. The writer of the article above quoted is one whose statements are always within bounds, and whose observations are entitled to consideration, and he says, from the experiments he has witnessed, the effect of manure thoroughly incorporated with the soil "is often at least *quadrupled* when compared with the ordinary careless manner of burying."

In determining the relative value of yard manure and guano, recourse should be had to careful analysis. If manure acts beneficially in supplying food for plants, then the relative value of manures, other things being equal, is in proportion to the relative amount of the organic and inorganic plant-food which they contain. The "manner of application to the soil" may be left out of the question, for it does not affect the *actual* value of the manures. If a ton of yard manure contains as much fertilizing matter as 100 lbs. of Peruvian guano, we shall not be far wrong in considering it of equal value to the guano, even though from bad application it produces a less effect on the crops. Because, from the careless manner in which yard manure is applied on some farms, it is found unprofitable, are we to conclude that "no farmer can afford to draw manure a mile, even if it is given him," while the *actual* value of the manure is much more than sufficient to cover this expense? In determining the relative value of manures, the only safe rule is to conclude that each is applied in the best manner.

RED CAMOMILE TO DESTROY INSECTS.—The *Journal d'Horticulture de Belgium* states that a powder made from the flowers of the red camomile (*Pyrethrum roseum*) emits "an odor so strong and penetrating that it kills all the insects and all the vermin of which until now no certain agent of destruction has been found." An Armenian merchant traveling in the south of Asia, observed that the inhabitants sprinkled themselves with a powder to prevent the sting of insects. He found that the powder was "nothing else than that made from the flowers of the red camomile." The plant is quite hardy, and is now cultivated to a great extent in Southern Russia. In Trans-Caucassia alone 88,000 lbs. of powder are annually made for consumption in the Russian Empire. Baron FOLKERSHAM has published a paper on the cultivation of the red camomile. He says:—"This powder preserves you from fleas and bugs; it kills flies, gnats, maggots, lice, and even the worms which are produced in the wounds of our domestic animals." He hopes it will be tried on insects injurious to horticulture, and adds that if experiments demonstrate the efficacy of the powder in this respect, each person could cultivate in the corner of his garden plants enough to kill the insects, &c., which ravage his field.

TRIAL OF SEEDS FROM THE PATENT OFFICE.

MR. LEVI BARTLETT, whose able article on Rape, in the present number of the *Genesee Farmer*, will be read with interest, has given the *Country Gentleman* the results of his experiments with seeds distributed by the Patent Office. We have space this month for only a few extracts in regard to the

"CABBAGE AND TURNIP TRIBE.—Of the *cabbage* and *turnip* tribe of plants, I had several varieties. For the turnips, the first week in June carted upon a plat of green-sward, warm fresh manure at the rate of thirty cart-loads per acre; ground well plowed, rolled and harrowed—drills 27 inches asunder; a sprinkling of De Burg's superphosphate dropped in the drills; seed sown by the hand, and covered by the head of a rake. The plants came up well, and were not attacked by any kind of insects. They were gradually thinned, so as to stand in the drills from 18 to 24 inches.

"The two first drills, on the north side of the plot, were sown with 'Ashcroft's Swedish turnip,' labelled, 'A large variety, with a reddish top, and yellow flesh, hardy, and of quick growth.' With me they have proved fully equal to the above description. The top of the bulb is reddish, not the leaves. For the table, they are now the best variety that I have ever grown, and a large portion of them are almost as perfect in form, as if turned in a lathe. Should they prove as good in future trials, they will become a great favorite with turnip culturists.

"The two next drills, 'River's Stubble Swedish Turnip,' labeled, 'large and first-rate sort in every respect, especially for late sowing.' This variety came fully up to the chalk; the bulbs were rather larger, but not so handsomely formed as Ashcroft's, and we do not think them as good for the table. This turnip would probably succeed well on stubble ground, after a crop of wheat or barley had been harvested.

"The two next rows, 'Sutton's Purple Topped Hybrid Turnip from England, the hardest, largest, and most nutritious of all hybrid turnips'—so said the printed label upon the package, and I shall not contradict the statement. They produced enormous leaves, and I gave them a wide birth, about two feet each way, which is near enough. This, with the two next varieties are of the English, or flat kind. They were sown too early. The seed, according to the ideas of some of our 'old fogies,' should have been kept out of the ground till the full moon in July. The three kinds produced heavy crops, but grew somewhat corky. They were fed to my oxen and young cattle.

"Two rows 'Yorkshire Paragon Turnip, a fine, new white globe variety, very large and solid'—so said the printed notice upon the package; and as far as I could determine, they proved 'true to their kind.'

"Two rows of 'Lincolnshire Red Globe Turnip; a superior variety, more solid and larger than any other variety.' If they can grow better turnips of this variety in Lincolnshire, England, than I have raised this season, I should like much to see samples of them.

"One row 'German Greens,' a fine plant for boiled greens. The leaves are thick, succulent, and like the Scotch Kale, very much crimped. A plant well worthy more general cultivation. A few roots taken up in the fall, stored in the cellar, and sat out in the spring, and a dozen or two of seedlings, properly cared for, would keep up a succession of greens from early spring till autumn, and would save the 'women folks' the labor of scouring the fields in search of a mess of dandelion."

We saw, last fall, a very fine crop of "Greens" in the garden of Mr. DINGWALL, of Albany, equal to any we ever saw in Great Britain, where they are found

in every garden. The leaves when young and properly cooked, are very tender and delicious. In England they withstand the winter, but in this latitude they must be covered with soil, or taken up and stored away in the cellar during winter.

"Two rows 'Kohl Rabi.' This plant seems to be a 'fusion' between the cabbage and turnip. The *kohl* rises in a thick stem about eight inches out of the ground, terminating at the top into a globular form, somewhat like a large Swedish turnip, the bulb of a milk green color. This vegetable is sweeter, more nutritious, and more solid than either the cabbage or white turnip; produces a greater weight per acre than the latter; it is also harder and keeps better than any other bulb, and imparts, when fed to cows, but little of that flavor known as 'turnipy,' either to butter or milk. The seed sown at the time of sowing the Swedish turnip, and cultivated in the same way. The bulbs may be kept sound and nutritious until very late in the spring, even later than those of the Swedes or ruta bage turnips. The above is principally copied from the last Patent Office Report. I cultivated about 200 plants of the Kohl. I cut up half a dozen of them, 3d day of October. They averaged six pounds per bulb. These, however, were of the largest size.

"The next row was sown with Early York and Milan Cabbage seed. I will here remark, that the plants removed and set on similar land, did altogether better than those left and cultivated in the drill. From this I infer that transplanted cabbage do best."

There can be no doubt on this point.

"On the 12th of June, carted at the rate of 30 loads of partially fermented manure upon sward land adjoining the turnip ground already described; plowed, rolled, and harrowed, the same as for turnips. On the 14th commenced setting cabbage plants. The two north rows were 'pure Early York,' seed from the Patent Office; holes for the plants were dug with a hoe; plants set by hand, not dibbled.

"First row, 12 plants, east end, Peruvian guano, (about a teaspoonful mixed with the soil excavated by the hoe,) next 12, superphosphate; next 12, Mexican guano; next 12, same amount of gelatine, (an artificially prepared manure, manufactured from old boots, shoes, scraps of leather, &c.; a sample of about 20 pounds was sent to me to experiment with from the manufacturer, Boston.) Second row had the different kinds of manure reversed, that is, the gelatine was used in the hills of the 12 plants opposite the guano—the guano to the 12 plants, west end of second row—superphosphate and Mexican guano, reversed in the second rows. Very much to my surprise, I was never able to discover the least difference in the plants, from the different manures, from the time of planting till harvesting."

The 30 loads of manure probably made the land so rich that it did not need artificial fertilizers.

"The two next rows, planted with 'Milan, healthful or salutary cabbage, selected by the agent of the office in France.' This cabbage very closely resembles the choicest variety of Savoy, growing much larger, with more compact heads than any Savoy I have ever raised. For the table I put them down No. 1. A heavy, warm rain the 2d day of October, caused many of the York, and some of the Milan, to 'burst their boilers.' Next day I cut a large wheelbarrow load of the Yorks; they averaged six pounds each—rows 2 feet apart, plants 18 inches in the rows. Great numbers of the Milans weighed from 12 to 14 pounds each. The manure used on the balance of the ground was about an equal mixture of the four kinds above named.

"The two next rows, 'Mammoth Broccoli.' They produced a large amount of foliage, but none flowered."

MR. BARTLETT well remarks:

"The turnip crop has been said to be the sheet anchor of British Agriculture; but the climate and temperature of old England and New England are quite dissimilar. With such seasons as the past summer and autumn, the turnip can be most profitably grown here; but with such seasons as 1853 and 1854, it is a precarious crop. Those two seasons, the fly took the plant in the seed leaf; then the drouth, lice on the leaves, fingers and toes and rot, nearly used up the crop of cabbages and turnips on half an acre. The past season, neither fly, louse, drouth, rot, or scarcely fingers and toes, have injured any of the several varieties of cabbage and turnips I have cultivated.

"But notwithstanding the risk of an occasional failure of the turnip crop, I think it would be for the interest of most farmers to grow them in connection with other green forage, both for autumnal and winter feeding. Some sort of succulent food, in connection with the dry winter foliage, usually fed to our cattle, is indispensable to their perfect health and thrift."

THE TURNIP CROP OF ENGLAND.

THE *Mark Lane Express* has an article on "The Failure of the Turnip Crop and its Consequences," from which it appears that owing to the fly, drouth, mildew, finger and toes, grubs in the crown and at the roots, "the injury is general, and the crop on the whole worse than we have witnessed for many years past." The *Express* thinks the failure is owing in some degree to the too frequent cultivation of turnips on the same land,—one-fourth of the arable land being in turnips every year. It says:

"The continuous propagation of any description of plant upon the same land for a series of years tends to a depreciation of its productive qualities, and such depreciation is pretty certain to be carried out to the plants also, as we yearly proceed."

This is a conclusion which the facts presented do not warrant. It does not follow that *because* a soil cultivated for a series of years without proper manuring decreases in fertility, that *therefore* the plants grown on this soil will deteriorate and become more liable to disease. It may be so, but we are opposed to laying down as a "fixed fact" that which is merely probable or potential. The following sentence, however, embodies an important truth:

"Upon a proper rotation of crops the main success of all cultivation depends; the cereals alternating with the legumes, root crops, and grasses, constitute the true application of the science of agriculture."

TO MAKE HARD WATER SOFT.—Water is frequently hard from holding in solution a quantity of carbonate of lime. It may be rendered soft by the addition of a little quick lime. The *rationale* of the process is this:—Carbonate of lime is insoluble in pure water, but soluble in water containing carbonic acid. Any water, therefore, that contains carbonate of lime in solution contains free carbonic acid. When quick lime is added, this free carbonic acid unites with it, forming the insoluble carbonate of lime; which, together with the carbonate of lime originally in the water, falls to the bottom of the vessel, and the supernatant water is soft.

PERUVIAN AND MEXICAN GUANO FOR WHEAT.—There are persons claiming to be "scientific" who assert that the guano obtained from the rainy coasts of Mexico is superior to that from the rainless island of the Pacific, because the former frequently contains the greatest proportion of phosphates. We have frequently expressed the belief that this Mexican guano—having lost by leaching and fermentation all or nearly all its ammonia—would be of far less value for wheat, corn, etc., than the highly ammoniated Peruvian guano. The Rev. WM. CLIFT, of Stonington, Conn., writes the *American Agriculturist* that he has used on wheat Mexican guano, which was analysed by Dr. CHILTON, and advertised as "fully equal to the best Peruvian guano," side by side with Peruvian guano, the same quantity (464 lbs.) per acre being used in each case. The soil was "a gravelly loam, not in very good heart." We give the result in Mr. CLIFT's own words:

"The seed came up well and the whole piece looked promising. As it was the first piece of wheat grown in the neighborhood for twenty years, it had the full benefit of close observation, and the whole category of wheat evils was prophesied upon it, from the blast to the weevil.

"The portion of the field dressed with Peruvian guano soon showed its superiority. The line where the dressing began was distinctly marked by a deeper green and a larger growth; and this difference was maintained up to the ripening of the grain. This part of the field was so heavy that some of it lodged. There was a larger growth of straw, longer heads, plumper kernels, and more of them. We had to reap the whole of this part of the field, while the most of the other was easily cradled. The Mexican guano was so manifestly "no where," that we did not think it worth while to accurately measure the yield of straw and grain upon each part."

SUBSOILING VERSUS DROUTH.—The Secretary of the Queens County (N. Y.) Agricultural Society, MR. JOHN HAROLD, in his report in the Transactions of our State society, mentions the following fact in regard to subsoiling:

"During the month of August we were invited by one of our members to go over his growing corn and take note of *his* method. The land had been *subsoiled*, and although the drouth was severe, the leaves were a fine dark green and the silk luxuriant, seeming scarcely to suffer from the great heat. In the adjoining lot, only separated by a post and rail fence, the stalk was drying up and the ears small and poorly filled. A spade was procured, a hole dug; about eight inches deep we came to a hard-pan, and with considerable labor broke through it. Below, the earth was as dry as ashes. The subsoiled lot of our friend was then tried; the spade went down into a mellow soil, and at two spades' depth it was moist and mellow. No wonder his corn looked flourishing."

Will Mr. HAROLD inform us whether the true subsoil plow was used, or the Michigan double plow?

WINTER.—There is no less truth than poetry in the following lines from *Tomson's Seasons*:

"All nature feels the renovating force
Of Winter, only to the thoughtless eye
In ruin seen. The frost-concocted globe
Draws in abundant vegetable soul,
And gathers vigor for the coming year."

EDITORIAL CORRESPONDENCE FROM CANADA WEST.

HAMILTON, DEC., 1855.

AMERICAN buyers are rapidly exchanging Yankee currency for Canadian wheat; and it would seem that Canada must soon become drained of *wheat*, or the States of *money*, so rapidly is the trade going on at every little village or railroad station where wheat can be shipped. The Canadian farmer pockets his well filled purse, and will tell you, with a self-satisfied smile, of the years gone by, when he was compelled to sell his crop of wheat at from three to four "York shillings" a bushel, after hauling it ten or fifteen miles. Now he can get sixteen shillings, and find a market within a mile or two of his home. It is not surprising that Canadian farmers are endeavoring to increase their wheat crop. Land is cleared in a hurry, or partially cleared; and wherever there is soil enough to cover a grain of wheat, there it is sown. Other crops for the time are neglected, and the Canadian farmer is determined to make hay while the sun shines.

The soil here is finely adapted to wheat-culture, and the average is large. Every farmer with whom I have conversed, has given his average at more than thirty bushels. WM. HERSEE, of Blenheim township, raised 800 bushels on 22 acres; WM. TENNANT, of the same town, raised 861 bushels on 21 acres, being 41 bushels to the acre; ALEX. MANN, 333 bushels on 11 acres, new land, just broken up; JOHN G. BARREDO, 95 bushels on 2½ acres. WM. & L. H. DANIEL, and others, in the 4th concession, Blenheim, showed me some of the finest specimens of wheat I have ever seen. Our Canadian friends must be careful not to kill the goose that lays such golden eggs. The favorite "*rotation*" here (Canada West) seems to be *wheat*, then *summer fallow*, and *wheat again*. I occasionally see a field of clover, though but very seldom. It is a question of some importance whether this almost entire devotion of tillable land to wheat-culture will not tend to invite the attacks of destructive insects, and facilitate their increase and consequent destructiveness. I hear some complaints of the Hessian fly, and also of the wheat midge, which has proved so destructive to the wheat crop of the Genesee Valley the past two years.

The people of Canada West are well pleased with the "reciprocity treaty," as well they might be. It not only raises the price of wheat, but of all other produce, to within a fraction of the price given in the States. Stop at any hotel in this part of the country, and even in distant country villages, and you will find Yankee purchasers of wheat, pigs, poultry, and of almost every article that the farm produces. It is amusing, if not edifying, to take a seat in the bar-room of an evening, and hear the discussions carried on between these American buyers and the neighboring farmers and loungers that "happen in." The Americans seem to think themselves republican missionaries, whose duty it is to advocate and defend republican principles; while the Canadians are equally intent on sustaining the policy of the "allies," the justice of the war with Russia, the beauty and fertility of the country, and especially the superiority of Canadian *wheat* and *women*.

There is a great scarcity of fruit in all the country where I have traveled. Indeed, a good apple is not to be found in one farm-house in a score, and at the public houses you are fed on apple-sauce and pies

made of dried apples. This is bad enough at any time, but at this season it is *barbarous*. Apples are selling at Hamilton, and most other towns of Canada West, at \$1 per bushel. It would pay to send apples here from Rochester.

I was pleased to see so many *stump machines* in active operation. On the pine lands, this seems to be the only way to get rid of the stumps. An old gentleman whom I found pulling stumps, informed me that he had waited twenty-five years for his stumps to rot, and now he had become tired of waiting, and was determined to have them out. My curiosity was excited by a person I saw boring the pine stumps with an auger. On inquiring the object, I found he was boring a hole in each stump, an inch in diameter and three or four deep, and then putting in the hole about a table-spoonful of saltpetre. This, he had been informed, after remaining about six months, would cause the stump to burn freely, so that when once set on fire it would be entirely consumed, root and branch.

Nothing has pleased me so much, in my travels, as the Canadian *barns*. The farmer may live in a poor log house, apparently destitute of comfort and convenience, but behind it you will see an excellent frame barn, well made, and large enough to hold a couple of the barns common on our side of the Niagara river. The lady of the house will tell you that they are to build a new house next summer. Indeed, it would seem that about two-thirds of the Canadian farmers are about to build new houses next year, and the other third have just finished building. Mechanics are scarce and wages high, and I have seen scores of farmers who would have built houses the present season if they could have procured workmen. Canada has never known such a season of prosperity, and I have seen but one man in the Province who dared to speak of *hard times* or the *scarcity of money*—those standing topics of grumblers.

I was surprised to find so many American settlers here. I should judge that nearly one-fifth the residents here are Americans, and full another fifth Scotch. The Scotch seem to be the best of farmers; and the native Canadians are a kind-hearted, free-souled set of men.

Less pork is used here than in the farming districts of the States, and few of the hogs I have seen killed here weigh over two hundred pounds. All seem to show a preference for small pork. On almost every farm is seen a fine flock of long-wooled sheep—regular *mutton* sheep. Canada farmers will not touch Merinos.

I may resume this rambling letter next month.

J. V.

CARE OF HENS IN WINTER.—Farmers as a general rule neglect their hens in winter. They are left to pick up what they can find about the barn-yard; if they get sufficient food, well; if not, no matter. This is cruel, and decidedly unprofitable. If it will not pay to keep them in good condition, it will not pay to keep them at all. They should have a warm and clean place to roost in, and the farmer should see that they never suffer from lack of food. A little light grain or buckwheat, with a few boiled potatoes, turnips, mangel wurzel, or other succulent food will generally be paid for by the eggs laid during winter and in the spring fourfold. Hens starved during winter will not furnish many eggs the coming spring.

NOTES BY S. W.

I AM indebted to my friend SAMUEL CLARK, ex-Member of Congress from Kalamazoo, Michigan, for the *Patent Office Report* for 1854. In my opinion the best contribution in the report is from Professor CHARLES T. JACKSON, of Boston, Mass.; not because his views of vegetable chemistry are all entirely new and original, but only that they are graphically explained and their verity is endorsed by the practical experience of every educated observing farmer; which is higher praise than can be awarded to that portion of the learned who advocate original but impossible theories long after they are exploded by the lessons of practical experiment.

After noticing the fact that soils generally are abundantly supplied with the mineral ingredients for crops, except the alkalies and phosphoric acid, he says these are generally found in ashes, guano, and superphosphate of lime, all of which are now known to farmers as the most valuable of saline manures. But with still better reason he says:—"A certain amount of vegetable matter or humus is necessary to the formation of a good and enduring soil; and though saline manures will often by themselves produce a good crop on a poor and apparently exhausted soil, they do, nevertheless, sometimes fail, owing to the want of a sufficiency of humus to retain the moisture requisite to healthy vegetation, as also for the production by slow oxidation of carbonic acid gas required for the foliage." To which may be superadded the fact that the same vegetable humus also contributes to the above recited indispensable saline ingredients of plants after its mechanical office has ended with its decay. Methinks hereby hangs the secret of the persistent fertility of the great alluvial West, where vegetable matter in every form of decomposition is always present in the soil. Even on those old fields which have been planted to maize for thirty years without manuring, the large amount of vegetable matter fed in the field annually, or left on it to be plowed in for another crop, more than compensated for the cereal ears removed from the soil.

Let any man try the following experiment:—Take two plots of moderately fertile, well-drained soil, two rods each; treat one with guano, or its equivalent in hen dung; the other with long stable manure, containing even less nitrogen; spade in the manure evenly and deeply to both plots, and plant them early with Indian corn. The guanoed plot may do best the first few weeks, but even if the season is none too dry, the other plot will in the end give a much larger increase of both ears and stalk; and if the same plots are planted with corn without manure the next season, the plot treated with long manure will distance the other still more, both from the beginning to the end of the race.

As Dr. JACKSON well says, "vegetable manures always form acids, or electro-negative substances. Animal matters, by their decay, produce alkaline, or electro-positive matters, chiefly ammonia and basic salts; hence it is obvious that when vegetable and animal matters are mixed together, we shall have a combination between the acids and alkalies resulting in the formation of neutral salts; and since the vegetable acids have an active affinity for ammonia, with which they readily combine, they prevent the escape of this valuable gaseous manure, and preserve it in its most available condition for the nutrition of

plants." Hence the importance, in order to make the most economical as well as effective use of ammoniacal manures, like Peruvian guano, tafeu, etc., that they should be composted with dry swamp muck, rotten wood, etc., before they are applied to the soil. Dr. JACKSON says that plaster when mixed with swamp muck or decayed peat will aid in fixing ammonia, while plaster alone is insufficient; as a substitute when muck cannot be had, he advocates the growing of green crops, clover, spurry, field peas, or buckwheat to supply the soil when plowed in with that vegetable mold so necessary to enable the soil to retain moisture and prevent the escape of the ammonia applied to it. But methinks such a green crop, rich as it is in nitrogen, as well as in all the other elements of plants, would almost suffice of itself as an amendment to the soil, without the aid of Peruvian guano.

But there is another office which vegetable manures perform in the soil not less important than those already enumerated, to wit: the power of their acids to decompose the minerals of the soil into available plant food. Dr. JACKSON says:—"Acid matters of all kinds tend to decompose the minerals of the soil, and that decomposition results in bringing out in an available form for vegetable nutrition the alkaline matters of calcareous rocks and their debris, which constitute the mineral bases of all soils. Rocks, before ferruginous and brown, come out of the peat bog perfectly white; and granite has its felspar and mica decomposed and their alkalies extracted, while only pulverulent mica remains. A rock containing limestone is found deprived of it, and cavities are left where the calcareous matter formerly existed. In a similar manner all recent vegetable mold acts on the comminuted minerals of the soil, disengaging from them their alkaline ingredients." Hence the alkaline wealth of calcareous clay loam and limestone soils in Western New York. S. W.—*Waterloo, N. Y.*

FARMERS' WINTER MEETINGS.—The *Boston Cultivator* well says:

"Associations for the discussion of agricultural subjects are among the most useful means of improvement. It matters little what these associations are called, if they only bring farmers together and induce them to interchange ideas. The farmers of a neighborhood, a school district, or a town, may have their stated meetings for this purpose. A simple organization only is necessary, for conducting business in an orderly manner, and preserving such a record that the light elicited may not be lost. A president, secretary, and board of managers, would comprise the officers. The topics brought before the association, might be introduced by lectures, or by special dissertations, from such persons as are deemed capable of doing justice to them. Each member can then express his own views; and when the discussion is concluded, it will be proper to take the sense of the association by the passage of a resolution embodying the facts which have been reached.

"Meetings of this kind stimulate to reading and thought, and their records, through the medium of the press, awaken attention and diffuse intelligence through the community. The ideas thus brought out will be regarded with interest by coming generations, as showing the state of agricultural knowledge at the present time."

THE RAPE PLANT.

AGREEABLY to your request, I herewith furnish you with the results of my experience in the culture of the rape plant for the two past seasons. In the spring of 1854 I received from the Patent Office a package of rape seed. It was sown about the 15th of June, at the time of sowing Swedish turnips. The land the previous year (1853) had been well manured and planted with field carrots and parsnips. The manure used for the rape and turnips was guano, at the rate of 300 lbs. per acre. Both kinds of plants came up well and grew finely, but the rape took the lead altogether. As I hoed them I thinned the plants to the distance of eight or ten inches. Sometime in August I found the plants stood too thick in the drills, and commenced cutting every other plant and feeding them to my cows; but in the course of two weeks they had become so infested with lice that I abandoned them to their fate. The extreme drouth of that season and the lice killed nearly every plant before the frosts came. My Swedes and cabbage were but little better.

This year, the first week in June, I carted upon a plot of grass land warm, fresh manure, at the rate of thirty cart-loads per acre, which was evenly spread and turned under by the plow from six to eight inches deep; the inverted sod was pressed down with a heavy roller, then well harrowed lengthwise the furrows; with a kind of horse rake drills were marked out at the distance of twenty-seven inches; a sprinkling of De Bore's superphosphate was deposited in the drills; seed sown by hand and covered by the use of a common hay rake. The plants came up in a few days and were not injured by the "fly" or "any other creature" through the season.

In July I commenced thinning the plants (feeding them to my cows morning and evening) till they averaged about two feet each way. This brought it up to sixty-five days from the time the land was plowed. At this time I cut at the surface of the ground every other plant on an average plot. The lightest plants weighed three pounds four ounces; the heaviest, nine and a quarter pounds; the whole number averaged a little over five and a half pounds per plant. There were fifty-six plants per square rod; but to be sure of not over-stating, I will call it fifty plants per square rod, which gives just twenty-two tons per acre of the choicest kind of green food for cows, etc., in less than sixty-five days from the time the seed was sown. I then commenced cutting the plants, twice daily, for my cows till they were used up (by which time I had a full supply of Early York cabbage to succeed as green food for my cows). Numerous sprouts sprang from the stumps, which produced several tons per acre of second crop. In cutting my rape plants, they were taken off at the surface of the ground. This was wrong. The stumps should have been left some four inches long, and then they would have produced a much larger second crop. The past season with us has been very wet and cool, perhaps much resembling the climate of England, which is much more favorable to the cabbage and turnip tribe of plants than our usually dry and hot summers.

In England and other portions of Europe, the rape plant is extensively cultivated both for green forage and for its seed, from which large quantities of oil are extracted for illuminating purposes. The rape

cake (the refuse after the oil has been expressed) is a concentrated and a valuable manure, especially for the turnip plant.

Some two years since, a quantity of rape seed was imported by the light-house board, with a view of testing the practicability of cultivating the plant in this country for the purpose of manufacturing oil.*

Large quantities of this seed are annually imported into the United States at an expense of \$3 or \$4 per bushel, for feeding to cage birds.

When the plant is cultivated for its seed, it is sown in August, and blossoms and perfects its seed the following summer. I am doubtful whether the plants would survive the winters here at the north; but in the latitudes where the cabbage and turnip will withstand the winter, the seed might be profitably grown.

From the results of my experiment in growing the rape plant the past season, I think most farmers would find it for their interest to cultivate it for the succulent food which its thick, fleshy stems and leaves supply to cows when other green fodder is scarce. Perhaps the better way would be to sow a patch as early in May as the season will admit, and one or two later sowings, in June and July.

The past summer, from the tenth of July till the 10th of September, my family numbered from fourteen to eighteen persons, eight of them boarders from Boston. I kept but two cows—milk and cream were used with the greatest freedom—yet, during the two months we churned from four to six pounds of butter per week. The cows ran in an old wire-grass pasture that has been grazed over eighty years; but a wheelbarrow load of the rape plant, night and morning during the time, tells the secret of the story. LEVI BARTLETT—Warner, N. H.

SCARCITY OF FARM LABORERS IN ENGLAND.—The *London Farmers' Magazine*, in alluding to the difficulty of obtaining hands, says that "instead of two men looking after one master, two masters are looking after one man." The war has something to do with this, the improved condition of Ireland something, but emigration has been the great means of improving the condition of the farm laborers of England. The article alluded to says:

"Those districts which depended on a periodical influx of Irish laborers for their harvest, receive them no more. They have solved the problem of a self-supporting emigration. The Highlanders who performed in the same way the periodical labor of the Scottish lowlands are emigrating to Canada, where they can obtain land of their own. The English rural population are shaking off their dread of foreign parts. They are acquiring a better knowledge of them, and of the prospects they afford to the laboring man of becoming a land owner and employer of labor himself."

OF THE PLOWS AT THE PARIS EXHIBITION HORACE GREELY says: "The chief anxiety of the contrivers would seem to be that each should be thoroughly guarded, at whatever cost, against running too deep into the ground, though to that excess they manifest not the slightest inclination." We will venture to say that Mr. G. found little in European experience to sustain his *ultra* notions in regard to deep plowing."

* This seed was distributed and sent to various sections of the country through the agency of the Patent Office, each package accompanied with a circular, giving directions for its cultivation, etc.



BLACK-FACED RAM AND EWE.

THE SHEEP OF GREAT BRITAIN.

CHAPTER I.

THE BLACK-FACED SCOTCH OR HEATH BREED.

THE origin of this breed of sheep is somewhat uncertain. It is found in the more northerly division of the chain of mountains which extend from the high lands of Derbyshire on the south to the confines of Scotland on the north. The elevation of this tract is from 1200 to 3000 feet. Prof. Low, in his work on the *Domestic Animals of the British Islands*, says:

"This breed possesses characteristics which distinguish it from every other breed in the British Isles. It is of the smaller races of sheep, with respect to the weight at which it arrives; but it is larger and more robust than the Zetland, the Welch, and the ancient soft-wooled sheep, which it displaced. It somewhat resembles the Wallachian; and as the latter has an affinity with the Persian, it may be conjectured that it is derived from the east. But it is more natural to assume that its peculiar characteristics have been communicated to it by the effects of food and climate, in the rough, heathy districts from which it is derived."

The characteristics of this picturesque breed readily distinguish it from the other breeds. Both the male and female have horns; very large, and spirally twisted with two or more curves in the male, but sometimes disappearing in the female. The limbs are lengthy and muscular, and the general form is robust; but the shoulders are not so low as in the Welch breeds, nor are the posterior limbs so long. The face is black, rather thick at the muzzle; the eye bright and wild; the body somewhat short and square. They are very active, of a hardy constitution, and well adapted to endure the privations and severe climate of the hilly districts in which they are kept. They have also the important property of finding a subsistence upon the heather in which the Highlands generally

abound, and which affords them food even when the surface of the ground is covered with snow. Though a pure mountain breed, their habits are not so restless, and they are more docile than might be expected, and thrive well in the lowland inclosures where they are kept. The ordinary weight of the wethers, when killed at the age of four years, is fifteen pounds the quarter; but some are made to exceed this weight, when properly treated and sufficiently fed from an early age. The mutton is not so delicate as that of the Welch sheep or the South Downs, but it is more juicy, has more of the venison flavor, and is preferred to every other by those who are used to it. The mothers are good and hardy nurses, and are able to bring up their young, when they themselves have been exposed to severe privations. The *Farmer's Magazine* says:

"In snowy weather, this wild and hardy breed will dig up the snowy surface to reach the herbs beneath, and support life under circumstances in which the more delicate races would perish."

They do not, like the Welch sheep, prefer the summits of the mountains, but feed wherever pasturage can be obtained, and are not so nice in the choice of herbage as the South Downs, Merinos, and other races derived from countries yielding the finer grasses.

Latterly, considerable attention has been paid to this breed. Not only are the points and weight of the animal improved, but the fleece, which possessed certain defects, has been improved also. The wool, which is loose and shaggy, is lessened in value by the "kemps" or hairs mixed up in it. "These," says Prof. WILSON, "of course reduce the quality of the fleece, which can be used only for the coarsest goods. Good feeding, and a judicious selection in breeding from animals the most free from this defect, have already effected a marked improvement in this respect." The fleece, when washed, averages about three pounds.

Many crosses are met with between this breed and others, both long and short-wooled. "That with the long-wooled Leicester," says Prof. Wilson, "and with the short-wooled South Down, appear to be the most successful."

The ram and ewe which form the subject of the accompanying engraving, obtained the first prizes, in their respective classes, at the Fair of the Highland and Agricultural Society of Scotland.

FEEDING SHEEP IN WINTER.

LATE in the fall of 1854, JOHN JOHNSTON, Esq., of Fayette, Seneca county, N. Y., purchased 331 Spanish Merino sheep for \$600. During the winter they were kept in a dry, warm, comfortable yard, and fed all the wheat and oat straw they would eat, and half a pound of oilcake, and three-fifths of a pound of corn per sheep per day. He sold them in the spring at \$6 per head. The cost of oilcake and corn was \$1.63 per sheep. This is great profit.

Mr. JOHNSTON prefers carefully selected Spanish Merino sheep to any other for feeding in this way.

Mr. J. W. COLBORNE, of Springfield, Vermont, states in the *Country Gentlemen* that he had 123 four year old wethers, a cross between the full blood Spanish Merino and Saxony, for which he was offered in November \$2 per head, and his "neighbors considered it a very generous offer—it was all they would have brought at that time." He concluded to fatten them, and we give the result in his own words:

"I commenced feeding them with corn (unground) on the 24th of November, and followed it without change (except in quantity) until the 29th of March, when they went to Cambridge market, with the following results:

Sale of 123 head at \$6.50 per head.....	\$811 80
Value of sheep in November.....	\$246 00
20 tons English hay of good quality.....	200 00
200 bushels corn at 80c. (the market price).....	160 00
Cost of getting them to market by railroad.....	44 28
	\$650 28

Profit\$161 52

Or a fraction over \$1.31 per head.

The secret of this great profit in fattening sheep, is not merely in the increased weight of the sheep—not in real increase of mutton—but in the much higher price which good mutton commands in the spring than in the fall. Two dollars a head for these sheep in the fall would probably not have been, after deducting the value of the pelt, more than three cents per pound for the mutton; whereas, it is quite probable the mutton of these same sheep in the spring sold as high as nine or ten cents per pound.

We make these remarks to caution our readers against supposing that the above figures necessarily indicate great rapidity in fattening.

Mr. COLBORNE says:

"I commenced this flock of wethers with twenty quarts of corn per day, and from time to time increased gradually as they would bear it without producing the scours, until they would take seventy quarts per day, with as much good hay as they would eat without waste. It will not pay the cost and trouble to grind any kind of grain for sheep, though it always should be done for cattle or hogs. No whole grain passes the stomach of a sheep undigested."

Our experience in regard to feeding whole grain to sheep is in accordance with the above. The following remarks are also well worthy of attention:

"My sheep and cattle yards have open sheds with a southern or eastern exposure. Cattle are stabled nights, and mostly stormy days; sheep go out and in at their pleasure; pure aqueduct water in each yard, with a box of St. Ubes' salt constantly supplied, which I consider quite as essential in winter as in summer; yards and sheds kept dry by straw and other coarse litter. A large stable connected with my sheep yard enables me to shut them off when putting hay into their racks, or grain into their troughs, so that they all go to their feed together and share as equally as possible."

We shall be pleased to hear the experience of any of our readers who are in the habit of fattening sheep during winter—especially as to the rate of increase, and as to whether the Merinoes fatten as rapidly for the food consumed as the coarse-wooled breeds.

INFLUENCE OF THE MALE IN BREEDING.

The last *Journal of the Royal Agricultural Society* of England contains a valuable article on the hereditary diseases of sheep and pigs, by FINLEY DUNN, of the Edinburgh Veterinary College. Mr. D alludes to what he terms an "ingenious hypothesis" which has been "lately propounded" by Mr. ORTON of Sunderland, but which, if we mistake not, we have before met with, though where, we cannot at the moment recollect. Mr. ORTON's main proposition is this:

"The male animal influences especially the external, and the female the internal organization of the offspring. The outward form, general appearance, and organs of locomotion are chiefly determined by the male; the vital organs, size, general vigor and endurance, by the female."

Mr. HARVEY, in commenting on Mr. ORTON's paper, makes, among others, the following remarks:

"The mule is the produce of a male ass and the mare; the *hinny*, (or as it is called the *muto*), that of the horse and the she-ass. Both hybrids are the produce of the same set of animals. They differ widely, however, in their respective characters—the mule in all that relates to its external characters, having the distinctive features of the ass—the hinny, in the same respects, having all the distinctive features of the horse; while, in all that relates to the internal organs and vital qualities, the mule partakes of the characters of the horse, and the hinny of those of the ass.

"Mr. ORTON, speaking of this, says:—'The mule, the produce of the male ass and mare, is essentially a *modified ass*; the ears are those of an ass, somewhat shortened; the mane is that of the ass, erect; the tail is that of an ass; the skin and color are those of an ass, somewhat modified; the legs are slender, and the hoofs high, narrow, and contracted, like those of an ass; in fact, in all these respects it is an ass somewhat modified. The body and barrel of the mule are round and full, in which it differs from the ass and resembles the mare. The hinny, (or *muto*), on the other hand, the produce of the stallion and she-ass, is essentially a *modified horse*; the ears are those of a horse somewhat lengthened; the mane flowing; the tail is bushy, like that of the horse; the skin is fine, like that of the horse; and the color varies also like the horse; the legs are stronger, and the hoofs broad and expanded, like those of the horse. In fact, in all these respects, it is a horse somewhat modified. The body and barrel, however, of the hinny are flat and narrow in which it differs from the horse, and resembles its mother, the ass.'"

We may mention that VARRO, an ancient Roman writer alludes to the above fact as follows:—"A hinnus [the produce of a horse and an ass] is less than an ass in the body, commonly of a brighter color; his ears, mane, and tail like those of a horse. The mule [the produce of an ass and a mare] is larger than the ass, but has more of the characteristics of that animal in its parts than the hinnus."

Equally conclusive, although perhaps less striking instances, may be drawn from other sources. Thus it has been observed that when the Ancona or other sheep are allowed to breed with common ewes, the cross is not a medium between the two breeds, but that the offspring retains in a great measure the short and twisted legs of the sire.

Buffon made a cross between the male goat and ewe; the resulting hybrid in all the instances, which were many, were strongly characteristic of the male parent, more particularly so in the hair and length of leg. Curiously enough, the number of teats in some of the cases corresponded with those of the goat.

A cross between a male wolf and a bitch illustrates the same law; the offspring having a markedly wolfish aspect, skin, color, ears, and tail. On the other hand, a cross between the dog and female wolf afforded animals much more dog-like in aspect—slouched ears and even pied in color. If you look to the descriptions and illustrations of these two hybrids, you will perceive at a glance that the doubt arises to the mind in the case of the first, "What genus of wolf is this?"—whereas, in the case of the second, "What a curious mongrel dog!"

Mr. O. adduces facts to show that the same law holds good among birds and fish.

COST OF RAISING CATTLE.

In the Agricultural Circular sent out from the Patent Office, farmers in various sections of the country were asked what it cost to raise cattle. We find in the last *Patent Office Report* the following replies:

Arkansas.—A. GORDON, of Lewisburg, Conway county, says:

"Cattle are raised at a cost of from \$3 to \$5 per head, at the age of three or four years."

Iowa.—J. W. RAYNOLDS, of Newbern, Marion county, says:

"The cost of raising a steer till three years old is \$12."

Illinois.—E. BABCOCK, of Riley, McHenry county, says:

"Wild hay is generally worth, with us, about \$2 per ton. One ton of hay per head, with the gleanings of the corn fields and corn shucks, and perhaps two bushels of corn each, is sufficient for the winter. Say \$5 per head for winter keeping, and \$1 more will cover all expenses for the year."

MARTIN MONDAY, of Vermillion county, Ill., says:

"The cost of raising a three year old steer is about \$15."

Michigan.—C. F. MALLORY, of Romeo, Macomb county, says:

"Cost of raising till three years old, \$5 a year."

Ohio.—S. S. G. FRANKLIN, of Cuba, Clinton county, says:

"The cost of raising a steer three years old is \$24, or \$8 a year."

New York.—LORENZO ROUSE, of Paris Hill, Oneida county, says:

"The cost of raising a steer till three years old would usually be about \$25 to \$30, but they are generally obtained by picking them up singly about the country, or by purchasing from droves which come annually from the west, usually from Ohio. Some of our farmers find a profit in stalk feeding their cattle in the winter, thereby not only making a home market for their root and grain crops, but greatly increasing their supply of manure. Success in either case will depend, as a matter of course, in a great degree on judgment in purchasing, skill in feeding, and frequently on luck in marketing."

S. A. COLLINS, of Sodus, Wayne county, N. Y., says:

"The cost of raising cattle till three years old is not far from \$25 per head."

Maine.—FRANCIS FULLER, of Winthrop, Kennebec county, says:

"The cost of raising a heifer to the age of two years, or the period she first gives milk, is about \$15. The cost of a steer at that age would be about the same."

Virginia.—Dr. H. M. PRICE, of Nicholas Courthouse, says:

"The cattle of this county usually are sold to the 'valley farmers,' to be fattened for market, at four years old. The cost of raising to this age is about \$2 or \$3 a year."

Texas.—Z. P. WHARTON, of Egypt, Wharton county, says:

"We have no breeds of cattle except the Mexican stock, which the Americans found in the country when they first came here. The oxen are of large size and make good teams. The cows are good milkers. The beef of these cattle is very excellent. The cost of raising cattle on our prairies is almost nothing. At three years old they are worth \$12 a head; at five years old, \$16. Cost of driving to the Gulf markets, \$1.50 per head. A few Durham bulls were brought into this vicinity from the Western States, but from the abundance of food they soon became so large and strong as to be dangerous to our herds, and were, consequently, shot. Therefore we had not an opportunity of ascertaining the results of a cross upon our common stock."

These are all the answers sent in on this subject. They are interesting certainly, but not sufficiently full and explicit to render them of any great value. The fact is, few farmers can make even an approximate estimate of the cost of raising cattle with any degree of certainty.

AN English farmer says "good sheds, dry beds, small yards or boxes, regularity in feeding, and small quantities at a time, are the great essentials in feeding all animals, and strict attention to these principles would save an immense quantity of valuable food."

SCOURS IN CATTLE.—A correspondent of the *Albany Cultivator* says that he had a cow which scoured badly, and thinking "she might as well die one way as another," he gave her "a handful of saltpetre," and she got better forthwith, and is now as well as ever.



CHEESE DAIRY HOUSE.

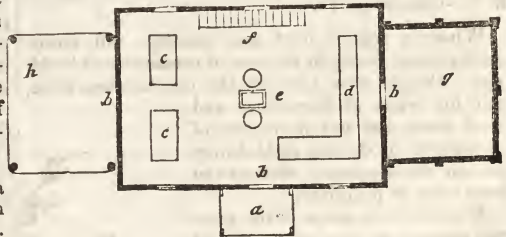
CHEESE DAIRY HOUSE.

WE should be glad if some of our correspondents would give us a description of some good dairy house, which has been found in practice to be adapted to the wants of butter and cheese making. Detached dairy houses are an "American institution." There are a few in the celebrated dairy district of Holstein, and other parts of the continent of Europe, but in England they are almost unknown. They possess many advantages over dairy rooms attached to the house, especially where a large number of cows are kept. The following description of one, taken from *Allen's Rural Architecture*, will, we hope, call attention to the subject, and induce some of our experienced correspondents to suggest improvements. We have seen dairy houses in the northern counties of this State which appeared to embody every improvement that could be thought of:

"This building is one and a half stories high, with a broad, spreading roof of 45° pitch; the ground plan is 10 feet between joists, and the posts 16 feet high. An ice-house is at one end, and a wood shed at the opposite end, of the same size. This building is supposed to be erected near the milking shed of the farm, and in contiguity to the feeding troughs of the cows, or the piggery, and adapted to the convenience of feeding the whey to whichever of these animals the dairyman may select, as both, or either are required to consume it; and to which it may be conveyed in spouts from the dairy-room

"**INTERIOR ARRANGEMENT.**—The front door is protected by a light porch, (a), entering by a door (b) the main dairy room. The cheese presser (c, c) occupy the left end of the room, between which a passage leads through a door (h) into the wood shed, (h), open on all sides, with its roof resting on four posts set in the ground. The large cheese table (d) stands on the opposite end, and is 3 feet wide. In the center of the room is a chimney (e) with a whey and water boiler, and vats on each side. A flight of stairs (f) leading

into the storage room above, is in the rear. A door, (b) on the extreme right leads into the ice house (g). There are four windows to the room—two on each side, front and rear. In the left are placed the shelves for storing the cheese, as soon as sufficiently prepared on the temporary table below. This loft is thoroughly ventilated by windows, and the heat of the sun upon it ripens the cheese rapidly for market. A trap-door through the floors, over which is hung a tackle, admits the cheese from below, or passes it down when prepared for market.



GROUND PLAN.

"The cheese house should, if possible, be placed on a sloping bank, when it is designed to feed the whey to pigs; and even when it is fed to cows, it is more convenient to pass it to them on a lower level, than to carry it out in buckets. It may, however, if on level ground, be discharged into vats, in a cellar below, and pumped out as wanted. A cellar is convenient—indeed, almost indispensable—under the cheese dairy; and water should be so near as to be easily pumped or drawn into the vats and kettles used in running up the curd, or for washing the utensils used in the work. When the milk is kept over night, for the next morning's curd, temporary tables may be placed near the ice-room, to hold the pans or tubs in which it may be set, and the ice used to temper the milk to the proper degree for raising the cream. If the dairy be of such extent as to require larger accommodation than the

plan here suggested, a room or two may be partitioned off from the main milk and pressing room, for washing the vessels and other articles employed, and for setting the milk. Every facility should be made for neatness in all the operations connected with the work.

Different accommodations are required for making the different kinds of cheese which our varied markets demand, and in the fitting up of the dairy house, no *positive* plan of arrangement can be laid down, suited alike to all the work which may be demanded. The dairyman, therefore, will best arrange all these for the particular convenience which he requires. The main plan and style of building, however, we think will be generally approved, as being in an agreeable architectural style, and of convenient construction and shape for the objects intended."

COUNTRY HOUSES—STYLES OF ARCHITECTURE.

MR. EDITOR:—You will accept my thanks for those cheap plans for country houses you gave us in your November number, and the larger and more costly one in the December number. The fact is, on this subject we need information. Almost every one who builds now, undertakes to make a house different from the old style of buildings, and I have thought sometimes the great idea was to get something different from his neighbors. Now, I see in these new buildings many things that appear to me without design or object, a great display of gaudy ornaments, quite the opposite, I think, of neatness and good taste. And yet we are told, when calling in question the good taste of the builder, that this is the Gothic style, and that style requires just such ornaments; and the other is Grecian, and all right. Now if we knew anything of the history and distinctive character of these styles, we could use them properly, or condemn their improper use understandingly. I have no doubt the information I need is to be found in large and expensive volumes, but cannot you give us the cream of the thing in the *Farmer*, as we are apt to look to you for information on all *known* and perhaps some *unknown* subjects? R. J.—*Chautauque Co.*

Whoever travels over our country, will notice some strange freaks in the way of ornaments to buildings. People seem tired of the old tasteless style, and for want of knowledge and good taste, and not from want of disposition to do the right thing, pile on the ornaments without the least taste or propriety.

We have only space in the present number to give some idea of the ornaments of the different styles, but in our next we will commence an article on the *Different Styles of Architecture—their Character, Changes, &c.* We take the following valuable hints on the subject of ornaments from *Repton's Landscape Gardening*:

"OF ORNAMENTS, &c.—The English language does not admit of a distinction between those ornaments which comprehend utility, and those which are merely ornamental, or, rather, enrichments; thus, columns may be called architectural ornaments, but the sculptured foliage of the capitals are decorations and enrichments. In the progress of sculpture, we may trace it as an imitative art; from its origin, in the rude misshapen blocks of granite in Egypt, to its perfection, in the works of Greece, which are selected or combined

forms of beauty, *ideal forms*, surpassing those of nature. We may, afterward, trace its decline, in the labored exactness of imitation, as in Chinese figures, where individual nature is so closely copied, that even *color* and *motion* are added to complete the resemblance.

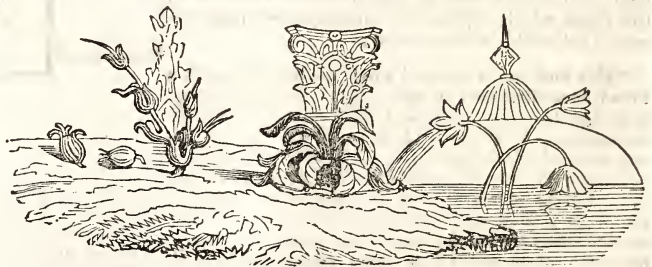
"Much has been said, of late, concerning the study of nature in all works of art; but, if the most exact imitations of nature were the criterion of perfection, the man who paints a panorama, or even a scene at the theatres, would rank higher than CLAUDE or POUSSIN. In that early stage of painting in England, when the exhibitions were first opened, they were crowded with portraits in colored wax, artificial flowers and fruits, and boards painted to deceive and surprise by the exactness of their resemblance; but they never excited admiration like the *marble* of WILTON, the wood carved by GIBSON, or the animated canvas of REYNOLDS. Mr. BURKE observes, that 'it is the duty of a true artist to put a generous deception on the spectators;' but in too close an imitation of nature, he commits an absolute fraud, and becomes ridiculous, by the attempt to perform impossibilities. If it is the mark of a low imagination to aim at the *vastness of nature*, an endeavor to copy the *minutiae of nature* is not less a proof of inexperience and bad taste, since both are equally inimitable.

'Si la Nature est grande dans les grandes choses,
Elle est tres grande dans les petites.'

[If Nature is great in great things, she is very great in little ones.]

The model furnishes hints, not portraits; yet such is the love of exact imitation in common, minds that copies are made from copies, without end.

"For this reason, houses are built to resemble castles, and abbeys, and Grecian or Roman temples, forgetting their uses, and overlooking the general forms of each, while their minutest detail of enrichment is copied and misapplied. In works of art we can only use the *forms* of nature, not the *exactness*. Thus, in furniture, if we introduce the head or the foot of an animal, it may be graceful; but if we cover it with hair, or feathers, it becomes ridiculous. And in the parts taken from the vegetable kingdom, to enrich the ornaments of architecture, imitation goes no further than the general forms, since we scarcely know the individual plant; although some writers have mentioned the Reed, the Acanthus, and the Lotus.



Imaginary sketch, to show the forms of enrichment in Gothic architecture from the bud; Grecian from the leaf; and Indian from the flower.

"It is a curious circumstance, that the general forms of enrichments may be thus classed: The Gothic are derived from the *bud*, or *germ*; the Grecian from the *leaf*; and the Indian from the *flower*; a singular coincidence, which seems to mark that these three styles are, and ought to be, kept perfectly distinct.

TO DARKEN MAHOGANY.—Drop a nodule of lime in a basin of water, and wash the mahogany with it.



Horticultural Department.

ORNAMENTAL PLANTING, &c.

ALTHOUGH we are forced to believe that horticultural taste is improving somewhat in this country, how few there are, of the many who undertake ornamental planting, that accomplish what they desire. In fact, a most lamentable ignorance upon this subject exists. Go where we may, abundant evidences attest this fact. Still, there is no country where such general desire exists among the people, to ornament and beautify one's home, as in this.

To succeed in improving a place, and making it attractive, as one wishes, the following must be done well :

1. PREPARATION OF THE SOIL.
2. LAYING OUT THE GROUND.
3. SELECTION OF TREES.
4. MANAGEMENT AFTER PLANTING.

Much depends upon the preparation of the soil, which, if poorly or imperfectly done, all after operations will be very unsatisfactory. The summer preceding the time that the ground may be wanted for planting, it should be graded, well drained, and subsoiled deeply, either with the plow or spade. If the ground is not already in good condition, it should be made so, by applying a thick coat of rich, well-rotted compost.

To produce the best results, great care must be taken in laying out the grounds properly. For extensive places, a person of experience in such matters should be sought; but in grounds of small dimensions—say half an acre or less—which must be very much lessened by walks, other modes may be adopted. In these cases, it would be well to give a sketch of the lot and buildings, with distances, and submit it to some person who has had experience in such matters. The suggestions he might make would go far toward accomplishing what you desire, and would perhaps save much expense.

A proper selection of trees requires a general knowledge of plants, their habits, etc., which is acquired thoroughly only by constant and close observation for years. It is all important, too, to know what plants will thrive well in certain localities and situations, and what will not. A very suitable person from whom to obtain this information, would be a professional European gardener who has had some years experience in this country; or some private person who under his personal supervision has a varied collection of ornamental trees, shrubs, etc. But a nurseryman who is dealing considerably in

such plants, would be good authority, as he has most abundant means at hand to inform himself, and is in constant communication with parties residing throughout the different parts of the United States, and has a better opportunity of knowing the results of the experience of others than most persons. The proper trees and plants for certain situations—in fact, a particular place for every plant—what should be placed here to hide an unpleasant object, what there to produce an agreeable effect, and every other detail—should be determined upon before a single article is ordered.

Planting *too close* is the great fault with nearly every planter; not enough space is allowed for the plants to grow. *Immediate* effect governs such, when they ought to look far enough in the future to judge what would be the appearance of their grounds in ten, fifteen, or twenty years hence.

All plants, unless set out for hedges, screens, or for clumps, should be placed far enough apart to give ample room for each plant to unfold itself, presenting at one view a finely-formed, well-grown plant. One of our most common plants, when well developed, is much more an object of admiration than would be hundreds of more rare plants crowded together within a small space.

The after treatment which should be given plants, differs somewhat—some requiring pruning, others staking and training; but all want good, deep cultivation, and the ground about the plants should be kept free from weeds, and every autumn apply a top-dressing of manure, which should be spaded or forked into the ground the following spring.

There are few persons who can be induced to wait—things must be done upon the go ahead principle. In this way, scarcely one in ten accomplish the object they undertake. The desire to ornament and beautify their grounds, is particularly strong after completing a new house, or remodeling an old one. Liberality is his motto. Catalogues—almost books in size—of extensive nursery establishments, reach him per return mail. His former ignorance of names and the characters of ornamental trees and plants is not removed by reading over and over the descriptions of perhaps hundreds of varieties, and in despair he selects plants quite indiscriminately, amounting to as many dollars as he is inclined to expend. The nurseryman fills the order, and probably with well grown, fine plants; but our new planter's ideas, with hardly an exception, differ widely from those of the nurseryman. He is disappointed at the start. The plants he has received look much different from what he expected, in almost every particular. The plants in pots he expected, from the price, would be almost trees in size; in fact, inches ought to be feet. But in some things the price and plants tolerably correspond. The nurseryman is thought hardly honest, and our planter votes at once that he has been deceived, and seriously thinks it is a duty he owes the public that the treatment he has received should be exposed. He finally concludes that instead of throwing the plants over the fence, he will plant them after his original design. They are soon planted; and fully as little judgment has been given the preparation of the soil as there was displayed in selecting the plants. The ground is perhaps undrained, and certainly not subsoiled or trenched. And then to produce, as it were, the finishing touch, plants that require fully a space of twenty to thirty feet, must be content with four to

six. The results are, as would naturally be supposed, the shrubs, &c., make feeble, slender growth; some die after the first summer; and even then, part of the more robust-growing plants within three years so trespass upon each other as to make them unsightly. It would be considered almost sacrilege to thin them by taking out some and giving more room to the others, so they are allowed to flourish as they can, which renders them more and more unsightly the longer they are allowed to remain. This is not the case with one only, but such is the experience of hundreds. There is, however, much information of this kind which is being diffused among the people; so that before many years shall have passed, the plea of ignorance will hardly be considered a sufficient excuse.

THE WAY TO GROW GOOD CELERY.

If you have the convenience of a green-house, take (about the first of March) a box, say two feet square and six inches deep, bore five or six holes in the bottom, and fill one inch deep with broken charcoal or broken potsherds for drainage, then fill the box three inches deep with light, rich soil—if one-third of it be leaf mold and lake or river sand so much the better—press the soil down firmly with the hand so as to leave it about four inches deep, drainage and all, make the surface of the soil smooth and even, then sow seed of *Seymour's Superb White* and *Seymour's Superb Red* celery; barely cover the seed with fine earth, and press it all down gently with a piece of board or the bottom of a flower pot; water it gently, and cover the box with some pieces of glass. Place it in the warmest part of the green-house, and shade it with a piece of newspaper in bright, sunny days.

If you have not a green-house, make a small hot-bed, about the first of April. This will be soon enough, for it will be very difficult to keep up a heat earlier than this. If the manure to be used be fresh and rank from the stable, it should be prepared by shaking and mixing and throwing it up in a heap to ferment and pass off the rank steam, ten days or a fortnight before it is wanted to make up the hot-bed. The hot-bed is made by throwing up manure into a heap three feet high and one foot larger every way than the box which is to stand upon it. In making the hot-bed the manure should be well mixed and beaten down with the back of the fork, not trodden with the feet, for when trodden it will heat unevenly, and when beaten down with the fork it will heat evenly and all settle down together. When the hot-bed is made and the box placed on it, put in about four inches deep of light, rich garden mold; then put on the sash and cover it with some old mats or dry litter for three days; at the end of the third day examine the bed, and if very hot leave the sash tilted at the back about one inch all night to let off the rank steam. The next day level the earth and sow the seed as recommended for the box in the green-house. Keep it covered in cold nights and shaded from hot sun until the plants get two or three inches high; then admit more air in warm days to harden them off. If there should be more room in the bed than is wanted for the celery, it can be filled up with early cabbage, cauliflower, lettuce, tomatoes, etc. When the mold looks dry water lightly with warm water. The temperature of the water should be between 75°

and 85°, and this is about the right temperature of the hot-bed. The first week in May, if the celery has grown pretty well, it will be three or four inches high, and will be ready for transplanting, or pricking out, as gardeners term it. To do this, I dig a pit one foot deep, four feet wide, and any length that may be necessary to receive the required number of plants. The earth that is thrown out of the pit is thrown all round it, so as to leave it when cleaned out two feet deep; I then fill this pit eighteen inches deep with well-fermented stable manure. If the manure is dry by over-heating, I give it a good watering and shake it up well, shaking and mixing it as I put it into the pit, and beating it down with the back of the fork. This done, if you have not a spare hot-bed frame, place some boards all around the pit and put on about four inches deep of light, rich garden earth; and when nicely warmed through, take a market basket and a common three-pronged dinner fork and take up the plants carefully from the seed-bed, without breaking, and with a little ball of earth about their roots, if possible. Then with a small garden trowel dig holes four inches apart each way in the new bed, and put one plant into each hole, pressing it down firmly with the fingers. When all are planted, give water enough to settle the earth about their roots. The temperature of the water should be between 75° and 85°; for celery can no more bear with impunity the sudden transition from heat to cold, than ice can the transition from cold to heat.

About the 10th of June I prepare my celery trenches. To do this well, I dig a trench two feet wide and one foot deep, throwing the earth alternately on each side of the trench. When the trench is made I wheel in enough manure from old hot-beds to fill the trench six inches, and dig it in, mixing it well with the soil. When all is dug, smooth it with the back of the rake. I am aware that many people think that one foot wide and one foot deep is enough for a celery trench, but it is *not* enough in width, for it will be found on examination that celery sends its roots more laterally than in a downward direction before earthing up, and after earthing up it actually throws its roots up into the bank; therefore I consider it better not to begin to earth up too soon. A very prevailing way of making celery trenches is to dig the trench eighteen inches wide and one foot deep, beveling down the sides, making a complete gutter, and planting the celery along the bottom;—consequently the earth is always pulverizing and running down with every heavy rain into the hearts of the plants, rotting them or materially checking their growth; hence we see so many uneven rows of celery.

If the weather should be wet or cloudy about the 10th of June I plant out at once. I take them up carefully with as large a ball of earth as will adhere to their roots, planting it entire, first picking off all the small leaves and suckers around the base of the plant, should there be any. For my late and winter celery I plant about one foot apart in the rows—that to be used earlier about nine inches. When planted give them a thorough soaking of water. If the weather should be, and continue to be, hot and dry for some time, I give them a good soaking of water once or twice a week, using all the soap-suds and *clear* manure water that I can get. Do not be afraid of giving too much water at this time of year to celery; if you literally flood the trenches once or twice

a week for three or four weeks, it will do a great deal of good, providing you do not wash the earth into the hearts of the plants.

If the first celery is wanted for use by the middle of September, I begin by the middle of August to earth up that planted nine inches apart. To do this I take each plant separately and pick off all the small bottom leaves and suckers, if there be any; then straighten up the leaves of each, holding them tightly in one hand while I tie a piece of matting around them with the other, keeping the heart in the middle. When all are tied up in this way, if dry weather, I give a right good soaking of water, and fill in the earth about three or four inches, or just as high up as the crowns of the plants, but no higher; then take a knife and cut all the strings. They should be earthed up in this way about every fortnight or three weeks at most. The earthing up of the late celery, or that to be used in winter, need not be commenced before the first week in October; then to be earthed up at intervals of two or three weeks, as recommended above, but with a little more care, the leaves being longer and stronger, and having spread out on the surface of the ground, will be more difficult to get up without breaking. About the middle of November, or just before severe weather is expected, bank up those rows that are to stand out all winter. Make the bank at least eighteen inches thick at bottom and one foot thick at top on each side of the plants, leaving the whole bank three feet thick at bottom and two feet thick at top, and nearly as high as the top of the leaves. When this is done, if cold weather is likely to set in; cover the whole top with clean, dry straw, and lay boards on the straw in such a position as to shield the plants from the snow and wind as much as possible. All this should be done before any severe frost touches them; for although it takes a great degree of cold to kill celery, but little will suffice to destroy its flavor. Just the last thing before winter is expected, take up a good supply and pack in the cellar or woodshed or any place where it will not freeze or be heated over 40°. When taken up strip off any broken leaves and trim off any loose roots; then tie each plant round with a small piece of bass matting to prevent the leaves from breaking and the dirt from getting into the hearts of them. The best place to keep the plants, in my opinion, is one corner of a cellar;—place a board to keep the earth up, then place the plants upright as closely as they will stand and fill in between them with moist, clean sand, if to be had readily, if not, fine earth will do. When this supply is gone, or the weather breaks up, get in another supply. Celery may be kept in this way fresh and good until the last of March or beginning of April. J. SALTER, *Gardener to John F. Bush, Rochester, N. Y.*

FRUIT GROWERS' SOCIETY OF WESTERN NEW YORK.—The Annual Winter Meeting of this Society will be held at the Court House, in Rochester, on Tuesday and Wednesday, January 8th and 9th, 1856, at which an exhibition of Winter Fruits will be made. An interesting discussion on fruit growing will take place, and new and valuable information be given. Contributions of fruit are desired, and particularly specimens of the newer varieties.

All the members, and every other person interested, residing in the twenty-three western counties, and elsewhere, are cordially invited to attend.

PRODUCTIVE AND PROFITABLE PEAR TREES.

FORTY DOLLAR PEAR TREE.—Mr. C. A. NEALEY, formerly a resident of this town, but now a farmer of Eddington, in Penobscot county, hauled into the village last Tuesday morning, forty bushels of pears, and in one hour retailed all of them from his wagon at two dollars a bushel. The pears were of a superior quality, and bought expressly for making preserves. Mr. N. informed us that he gathered twenty bushels of this lot from one tree. We should think that the farmers in this region might take the hint—it costs but a trifle to grow the trees.—*Ellsworth (Maine) American.*

This is pretty good for Maine, but it is not ahead of Western New York, as witness the following:—In the *Albany Cultivator* for 1852, page 373, it is said that “WM. S. LAPHAM, of Macedon, N. Y., has a pear tree standing in a corner of his house-yard, which is probably over twenty-five years old, and which yielded the present year *fifteen bushels* of fine, smooth pears, which sold on the ground at two and a quarter dollars per bushel, or about \$34 for the crop.” In the same neighborhood, the *Cultivator* adds, ISRAEL DELANO “gathered from two trees of the *Virgalieu*, forty-two bushels of pears, all of which were sold at two and a quarter dollars per bushel, or \$94 for the two.”

At one of the pomological meetings held during the New York State Fair, in 1853, mention was made of “an old tree growing in Western New York, which had annually yielded from \$20 to \$30 worth of pears, at two and a half dollars per bushel.”

THE OHIO POMOLOGICAL SOCIETY.—This society will hold its regular *Biennial Session* on the second Tuesday in January, (the 8th), in the city of Cleveland, and continue in session so long as the interest of the same may require.

The society, though instituted for the region of Ohio, nevertheless of necessity takes in the wider range of our country—in view of which a resolution was unanimously passed that all fruit growers and pomologists out of the State be invited.

Communications may be addressed to the President or the Secretary. Packages of specimens of fruit should be marked “For the Pomological Society,” and directed to the “Care of F. R. ELLIOTT, Cleveland, Ohio,” to whom members and others will report themselves to learn the place of meeting and for other information.

ON THE AGE OF TREES.

In speaking of the age of trees, we insensibly use the term age in the same manner as we do when speaking of animals. We talk of old trees, old animals, and old houses, as if the same processes had gone on in one as in the other. Yet, when we come to examine the nature of the changes which have taken place during the age of the one and the other, how different they are. Not more does the process of change in the old house differ from the tree and animal, than does the same process in these two. The animal has but one life, and this life is dependent on the harmony of the whole organization; whilst, if we examine a tree, we shall find it has, (so to speak,) many lives. Each bud is capable of an independent existence; nay more, many parts of the tissues of plants are capable of producing buds, and each cell has its separate and independent existence. It is here, then, that we see how different must be the circumstances under which age is

attained in a tree, from those which produce it in an animal.

Plants are called annual, biennial, or perennial, as they endure for one, two or more years. The difference depends on this, that the tissues of some plants are unable to resist the meteorological influences to which



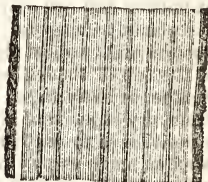
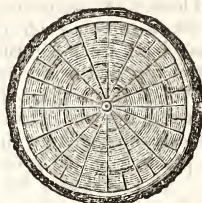
BEECH TREE—EXOGEN.



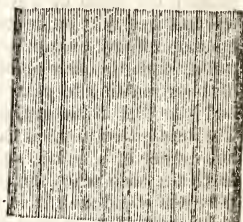
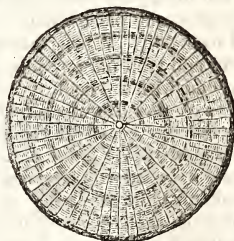
AGAVE AMERICAN—ENDOGEN.

they are exposed, so well as others. The reason of this difference in the tissues is not well made out. It is, however, well known, that a plant in this country may be an annual, on the Continent, a biennial, and, in the Tropics, a shrub, or tree. This is the case with the castor-oil plant, *Ricinus communis*.

In perennial plants, the tissues which resist climatal change carry on a kind of low vitality, as seen in the trunks of trees, in this country, in the winter. At more favorable periods, these tissues begin to grow in certain directions; buds, and leaves, and new tissues are formed, and deposited, in various parts of the plant, more especially covering the old, and growth or increase is the consequence. Even in plants not producing leaves, this process goes on, and year after year, new tissues are added to the old. This is especially evident in sea-weeds, which thus exist through very long periods of time. Thus, Professor SCHLEIDEN says, "On the great fucus bank of Corvo and Flores, we might yet find, floating about, plants of *Sargassum*, which had been cut in strips by the bark of COLUMBUS; and in the northern drift, we might expect to discover Lichens that had been transported with the soil in which they grew, from Scandinavia." Nor is this conjecture at all unreasonable, from what we know of the nature of the process of growth in these plants; but we have no means, in cryptogamic plants, of accurately ascertaining the length of time they have been growing. Nor is this possible in endogenous plants, or even



SECTIONS OF A STEM AS IT APPEARS IN MAY AND JUNE OF THE FIFTH YEAR. The white spaces show the swelling cambium.



SECTIONS OF A STEM AT THE END OF THE FIFTH YEAR. The envelopes and layers of liber are too thin to be shown by the pencil.

in all exogens; but in the latter, the stem presents, very generally, a series of zones, and each zone has been found to correspond with one period of vegetation. This period mostly represents a year, hence, by counting the number of zones in the trunk of an exogenous tree, we may form an estimate of the years it has existed. It is in this way that the ages of many very old trees have been arrived at. The following list of old trees has been published by MOQUIN-TANDON, in his *Traité de la Végétation*, and is reproduced in the English translation of Schleiden's *Principles of Scientific Botany*. There are known,

	Years
Palms of.....	200, 300
Cercis.....	300
Cherodendron.....	327
Ulmus (Elm).....	355

	Years.
<i>Cupressus</i> (Cypress)	838
<i>Hedera</i> (Ivy)	443
<i>Acer</i> (Maple)	516
<i>Larix</i> (Larch)	263, 576
<i>Castanea</i> (Chestnut)	300, 626
<i>Citrus</i> (Lemon, Orange, &c.)	400, 503, 640
<i>Platanus</i> (Plane)	720
<i>Cedrus</i> (Cedar)	200, 800
<i>Juglans</i> (Walnut)	900
<i>Tilia</i> (Lime)	364, 530, 800, 825, 1056
<i>Abies</i> (Spruce)	1200
<i>Quercus</i> (Oak)	600, 800, 850, 1000, 1600
<i>Olea</i> (Olive)	700, 1000, 2000
<i>Taxus</i> (Yew)	1214, 1466, 2583, 2850
<i>Schubertia</i> (Taxodium)	3000, 4000
<i>Leguminosæ</i>	2052, 4104
<i>Adansonia</i> (Baobab)	6000
<i>Dracæna</i> (Dragon Tree)	6900

We might add considerably to this list, but it already supplies a sufficient number of illustrations of our general remarks.

The means, by which the age of these trees has been ascertained, are two—first, from historical data, and second, from counting the zones. Thus, the colossal Dragon-tree of Oratava is known to have existed, in almost its present condition, in 1402; and comparing it with the younger trees in its neighborhood its vast age is inferred. The Yew trees at Fountain's Abbey, in Yorkshire, are known to have sheltered the monks whilst the abbey was building. The abbey is now in ruins, but the trees retain their vigor; the lowest age that can be assigned them is twelve centuries; they are probably much more. But where trees have been cut down, the method of counting zones has been had recourse to. There is no difficulty in this where the tree is sound; but in many instances, the older trees are, the more likely they are to be decayed in their center. The plan then adopted is, to take a square inch, count the zones in it, multiply this number by the number of inches from the bark to the pith, which will then give the whole number of zones, and the age of the tree. This was the plan adopted by ADANSON in calculating the age of the Baobabs of Africa, and which has also been employed in calculating the age of other gigantic trees. The numbers, however, thus obtained, can only be looked upon as approximations to the truth, seeing that the zones of wood vary very much in thickness, not only one with the other, but in parts of the same ring.

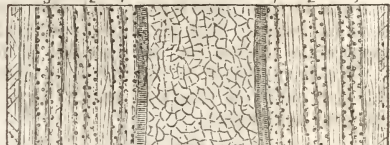
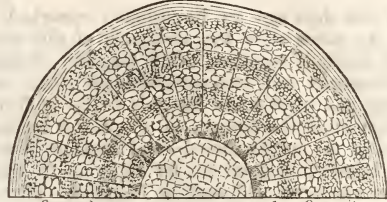
Size is no indication of the age of a tree, as various species grow at very different rates, and the same species under different circumstances. The following table shows the different rates at which some common trees grow.

	1st Year.	2d Year.	3d Year.
	Ft. In.	Ft. In.	Ft. In.
Oak, circumference, 6	10%	0 11%	1 0%
Larch " "	1 0%	1 3	1 4
Elm " "	2 7%	2 9	2 11
Lombardy " "	1 8	2 0	2 3%
Poplar " "	1 8%	1 10%	2 0
Lime " "			

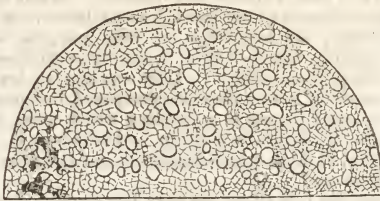
Some trees attain an enormous size by their rapid growth. Species of *Eucalyptus* have been measured that reached a height of 250 feet, and measured 70 feet round their trunks.

The death of trees does not appear to arise from any natural period being assigned to the existence of their living tissues, or reproductive powers. When the tissues of a tree are very old, they lose their vitality, especially in the center of the trunks of the trees; and, on being exposed to the atmosphere, or moisture, they readily decay. The process of new growth is sometimes more rapid than this decay, and thus trees exist with enormous cavities in their interior. The time, however, comes, sooner or later, when a separation takes place between the roots and branches, and then the tree ceases to exist, although the tissue that has been conveyed away from it, in the form of slips and

grafts, may still continue to flourish. Thus, the old stump of the *Ribstone Pippin* Apple is but struggling for life in *Ribstone Park*, while the slips from its branches adorn a thousand orchards, and supply the thousands upon thousands of bushels of *Ribstone Pippin* Apples that are annually consumed.



HORIZONTAL OR TRANSVERSE AND PERPENDICULAR SECTION, OF THE STEM OF AN EXOGEN OF THREE YEAR'S GROWTH. In the center of each is seen the pith, *a*, composed of cellular tissue; surrounding it is the medullary sheath, *b*; and exterior to it are three rings of wood, each consisting of *c*, *c*, dotted ducts, and *d*, *d*, woody fibre. The last formed is in contact with the bark, *e*, *e*, in which the layers are indistinct. *Carpenter's Vegetable Physiology.*



HORIZONTAL AND VERTICAL SECTION OF THE STEM OF AN ENDOGEN, showing the bundles of ducts, woody fibre, and spiral vessels, irregularly disposed through the whole stem. *a*, *a*, portions of cellular tissue; *b*, *b*, spiral vessels; *c*, *c*, dotted ducts; *d*, *d*, woody fibre. The cellular portion of the skin, which in *Exogens* is separated by the first introduction of wood into pith and bark, here remains permanently intermingled with it.

[The accompanying engravings, representing sections of *Exogen* and *Endogen*, will explain themselves. The number of zones in trees will probably give a tolerable approximation to the years of growth in temperate climates; but even here, two may be formed in one year, if any great check of the growth suddenly occurs during the summer. In tropical climates the indication is far more doubtful; ADANSON'S computation, made in this way, carried the age of the Baobabs to from 5000 to 6000 years. It has been stated that monthly rings are formed in the trunks of South America, (*Hopkins Researches in Magnetism*.) Some plants, such as the Cacti and Cycadeæ, require more than one year for the formation of a zone of wood.]—*London Gardeners' Magazine of Botany.*

Ladies' Department.

DESIGNS FOR COUNTRY CHURCHES.

A FEW days ago an Englishman remarked to us that the ladies were the architects of this country. They assemble together, drink tea, and discuss the conveniences and inconveniences of their several houses, and when a new house is to be built, its arrangement is the subject of discussion among the ladies of the neighborhood—and therefore American farm houses in general are far superior to those of similar character and cost in England. There was much truth in this observation, and the thought struck us immediately that the *Village Church* was an appropriate subject for the exercise of female taste. We have therefore concluded to open the present year with an excellent article from A. J. DOWNING on this subject:

"WHAT, among all the edifices that compose a country town or village, is that which the inhabitants should most love and reverence,—should most respect and admire among themselves, and should feel most pleasure in showing to a stranger?"

"We imagine the answer ready upon the lips of every one of our readers in the country, and rising at once to utterance, is—the VILLAGE CHURCH!"

"And yet, are our village churches winning and attractive in their exterior and interior? Is one drawn to admire them at first sight, by the beauty of their proportions, the expression of holy purpose which they embody, the feeling of harmony with God and man which they suggest? Does one get to love the very stones of which they are composed, because they so completely belong to a building which looks and is the home of Christian worship, and stands as the type of all that is firmest and deepest in our religious faith and affections?"

"Alas! we fear there are very few country churches in our land that exert this kind of spell,—a spell which grows out of making stone, and brick, and timber, obey the will of the living soul, and express a religious sentiment. Most persons, most committees, selectmen, vestrymen, and congregations, who have to do with the building of churches, appear indeed, wholly to ignore the fact that the form and features of a building may be made to express religious, civil, domestic, or a dozen other feelings, as distinctly as the form and features of the human face;—and yet this is a fact as well known by all true architects, as that joy and sorrow, pleasure and pain, are capable of irradiating or darkening the countenance. Yes, and we do not say too much when we add, that right expression in a building for religious purposes, has as much to do with awakening devotional feelings, and begetting an attachment in the heart, as the unmistakable signs of virtue and benevolence in our fellow creatures have in awakening kindred feeling in our own breasts.

"We do not, of course, mean to say, that a beautiful rural church will make all the population about it devotional, any more than that sunshine will banish all gloom; but it is one of the influences that prepare the way for religious feeling, and which we are as unwise to neglect as we should be to abjure the world and bury ourselves like the ancient troglodytes, in caves and caverns.

"To speak out the truth boldly, would be to say that the ugliest church architecture in Christendom, is at this moment to be found in the country towns and villages of the United States. Doubtless the hatred

which originally existed in the minds of Puritan ancestors against everything that belonged to the Romish Church, including in one general sweep all beauty and all taste, along with all the superstitions and errors of what had become a corrupt system of religion, is the key to the bareness and baldness and absence of all that is lovely to the eye in the primitive churches of New England—which are, for the most part, the type churches of all America.

"But, little by little, this ultra puritanical spirit is wearing off. Men are not now so blinded by personal feeling against great spiritual wrongs as to identify forever all that blessed boon of harmony, grace, proportion, symmetry, and expression, which make what we call beauty, with the vices, either real or supposed, of any particular creed. In short, as a people, our eyes are opening to the perception of influences that are good, healthful, and elevating to the soul, in all ages, and all countries—and we separate the vices of men from the laws of order and beauty by which the universe is governed.

"The first step which we have taken to show our emancipation from puritanism in architecture, is that of building our churches with *porticoes*, in a kind of shabby imitation of Greek temples. This has been the prevailing taste, if it is worthy of that name, of the Northern States for the last fifteen or twenty years. The form of these churches is a parallelogram. A long row of windows, square or round-headed, and cut in two by a gallery on the inside; a clumsy portico of Doric or Ionic columns in front, and a cupola upon the top, (usually stuck in the only place where a cupola should never be—that is, directly over the pediment or portico)—such are the *chef d'œuvres* of ecclesiastical architecture, standing, in nine cases out of ten, as the rural churches of the country at large.

"Now, *architecturally*, we ought not to consider these churches, at all. And by churches, we mean no narrow, sectarian phrase, but a place where Christians worship God. Indeed, many of the congregations seem to have felt this, and contented themselves with calling them "meeting houses." If they would go a step further, and turn them into *town-meeting houses*—or at least would in future only build such edifices for town meetings or other civil purposes, then the building and its purpose would be in good keeping, one with the other.

"Not to appear presumptive and partial in our criticism, let us glance for a moment at the opposite purposes of the Grecian or classical, and the Gothic or pointed styles of architecture—as to what they really mean; for our readers must not suppose that all architects are men who merely put together certain pretty lines and ornaments to produce an agreeable effect and please the popular eye.

"In these two styles, which have so taken root that they are employed at the present moment all over Europe and America, there is something more than a mere conventional treatment of doors and windows;—the application of columns in one case, and the introduction of pointed arches in the other. In other words there is an intrinsic meaning or expression involved in each, which not to understand, or vaguely to understand, is to be working blindly, or striving after something in the dark.

"The leading idea of the Greek architecture, then, is in its horizontal lines—the unbroken level of its cornice, which is the "level line of rationality." In this line, in the regular division of spaces both of columns and windows, we find the elements of order, law, and human reason fully and completely expressed. Hence the fitness of classical architecture for the service of the State, for the town hall, the legislative assembly, the lecture room, for intellectual or scientific



DESIGN FOR A COUNTRY CHURCH.

debate, and in short, for all civil purposes where the reason of man is supreme. So, on the other hand, the leading idea of Gothic architecture is found in its upward lines—its aspiring tendencies. No weight of long cornices or flat ceilings can keep it down; upward, higher and higher, it soars, lifting everything, even heavy, ponderous stones, poising them in the air in vaulted ceilings, or piling them upwards towards Heaven, in spires, and steeples, and towers, that, in the great cathedrals, almost seem to pierce the sky. It must be a dull soul that does not catch and feel something of this upward tendency in the vaulted aisles, and high, open, pointed roofs of the interior of a fine Gothic church, as well as its subdued and mellow light, and its suggestive and beautiful forms; forms, too, that are rendered more touching by their associations with Christian worship in so many ages; not, like the Greek edifices, by associations with heathen devotees.

"Granting that the Gothic cathedral expresses in its lofty, aspiring lines, the spirit of that true faith and devotion which leads us to look upward, is it possible, in the narrow compass of a village church which costs but a few hundred, or at most, a few thousand dollars, to preserve this idea?

"We answer, yes. A drop of water is not the ocean, but it is still a type of the infinite; and a few words of wisdom may not penetrate the understanding so deeply as a great volume by a master of the human heart, but they may work miracles, if fitly spoken. For it is not the magnitude of things that is the measure of their excellence or power; and there is space enough for the architect to awaken devotional feelings and lead the soul upward, so far as material form can aid in doing this, though in a less degree, in the little chapel that is to hold a few hundred as in the mighty minster where thousands may assemble.

"And the cost, too, shall not be greater; that is, if a substantial building is to be erected, and not a flimsy frame of boards and plaster. Indeed, we could quote numberless instances where the sums expended in classical buildings of false proportions, but costly

execution,* which can never raise other than emotion of pride in the human heart, would have built beautiful rural churches, which every inhabitant of the town where they chanced to stand would remember with feelings of respect and affection to the end of all time.

"And in truth, we would not desire to make the country church other than simple, truthful, and harmonious. We would avoid all pretensions to elaborate architectural ornament; we would depend upon the right proportions, forms, outlines, and the true expression. Above all, we would have the country church rural and expressive, by placing it in a spot of green lawn, surrounding it with our beautiful natural shade trees, and decorating its walls (for no church built in any but the newest settlements, where means are utterly wanting, should be built of so perishable a material as wood) with climbing plants—the ivy, or where that would not thrive, the Virginia creeper. And so we would make the country church, in its very forms and outlines, its walls and the vines that enwreath them, its shady green and the elms that overhang it, as well as in the lessons of goodness and piety that emanate from its pulpit, something to become a part of the affections, and touch and better the hearts of the whole country about it.

FURNITURE PASTE.—Put turpentine into a glazed pot, and scrape beeswax into it, which stir about till the liquid is of the thickness of cream; it will then be good for months, if kept clean; and furniture cleaned with the liquid thus made, will not receive stains so readily as when the turpentine and wax are heated over the fire; which plan is, besides, very dangerous; but if the heating be preferred, place the vessel containing the wax and turpentine in another containing boiling water.—*Household Receipt-Book.*

* We have seen with pain, lately, one of those great temple churches erected in a country town on the Hudson, at a cost of \$20,000. It looks, outside and inside, no more like a church than does the Custom House. And yet this sum would have built the most perfect of devotional edifices for that congregation.

Youth's Department.

GARDENING FOR YOUTH.

PARTS OF A PLANT.

ON entering upon the subject proposed in a previous number, namely, *Gardening for Youth*, it will be necessary in the first place to understand a little botany—just enough to know the principal parts of a plant, and the most remarkable functions for each.

THE SEED.—If you remove the shell and inner skin from a hazel-nut or filbert (fig. 1), you will find that the kernel easily separates into two pieces throughout nearly its whole extent, being held together at the smaller end by a small body, which tapers towards each of its extremities. This little



Fig. 1.

body is called the *germ*, and may be compared to a bud containing the rudiments of a tree like that from which the nut was taken. The two larger portions are termed the *seed-lobes*, and contain enough nourishment to support the young plant until it has formed roots and leaves, and is able to provide for itself. The kernel, or seed, has no tendency in itself to alter its form, if kept dry and exposed to light; but if buried a little way beneath the surface of damp earth, it swells and bursts its coverings; the seed-lobes are changed into green fleshy leaves, and between them the germ lengthens upwards and downwards, expanding first one *leaf* and then another, and sending out from its lower end downy fibres or *roots*. All the nourishment which it receives at present, is derived from the enlarged seed-lobes, called *seed leaves* in this stage of their growth; consequently, if they are destroyed, the young plant perishes likewise.

The *true leaves*, which shoot up between the seed-leaves, are generally different in form from the seed-leaves, as may be observed in the young cabbage

and the stem. The flat part of the leaf is composed of a network of tubes like those of the leaf-stalk, the interstices being filled up with a number of minute cells, which contain a green juice, and the whole is covered, above and below, with a thin, transparent skin. This thin skin, or *cuticle*, is perforated over its whole surface, both upper and under, with numerous pores, so small as to be invisible to the naked eye; but, nevertheless, perfectly adapted to the purpose of giving out all the superfluous moisture and air received from the roots, as well as of absorbing from the atmosphere all that it contains necessary for the growth of the plant. The leaves also perform the function of preparing the various juices which are destined for the use of all parts of the plant; they are, consequently, as important as the roots.

At the base of every leaf is a *bud* (fig. 4), which contains either rudiments of leaves precisely similar to those described, or rudiments of flowers. Generally, only a portion of these come to perfection, most plants having, as it were, a reserve of these useful organs, to be called into life if required, and in trees they are carefully protected from cold in winter by scales, wool, or gum.



Fig. 4.

When the plant has gained size and strength, it is enabled to produce a new organ yet more delicate and complex than the leaf; this is the *flower* or *blossom*.

A perfect flower in its natural state consists of a green cup or *calyx*, the leaves of which, if there be more than one, are called *sepals*; the *corolla*, the colored leaves of which are called *petals*; *stamens* and *pistils*.



Fig. 6.



Fig. 5.

The beauty of the flower mainly depends on the perfection of the corolla; the production of seed depends exclusively on the presence of stamens and pistils. The art of the florist consists in increasing the number, size, regularity, and bright tints of the petals.

In the rose (fig. 5) the *calyx* consists of five *sepals*, which remain attached to the plant after the petals have fallen off; the primrose has a calyx of one leaf, divided



Fig. 2.

Fig. 3.

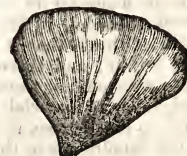


Fig. 7.



Fig. 8.

plant (fig. 2.) They usually consist of two parts (fig. 3); the *leaf-stalk*, which is a collection of tubes inclosed in a thin rind, and destined to convey juices and air upwards and downwards between the leaf

into five *segments* (fig. 6); the tulip has no calyx.

The *corolla* of the poppy consists of five *petals* (fig. 7); that of the primrose has but one, which is divided into five *segments* (fig. 8); and some plants

have no corolla, but these are rarely cultivated by gardeners.

A *stamen* consists of three parts; the *filament*, which is a thread of tubes for conveying nourishment to the other parts; the *anther*, a case usually of two cells, which, when ripe, burst and shed a quantity of fine powder, called *pollen* or *farina* (fig. 9). The honeysuckle contains five such stamens; the poppy a countless number.



Fig. 9.

The place of the *pistil*, or, if there be more than one of the *pistils*, is in the very center of the flower. Its summit is called the *stigma*, and its



Fig. 10.

lower part the *germen*, and these are generally separated from one another by a third part, called the *style*. In the primrose, the stigma is globular (fig. 10) and the style long; in the poppy the stigma is radiated, and there is no style (fig. 11). The germen contains the rudiments of the *seed*, and when enlarged is usually called the *seed-vessel* or *fruit*. No flower can produce perfect fruit unless some portion of pollen fall on the stigma; therefore, few *double flowers*—



Fig. 11.

that is to say, flowers in which the stamens and pistils have been changed by excessive cultivation into petals, produce seeds. In the case of dahlias, China asters, &c., there would seem to be an exception to this law; but it is only an apparent one; for what is called a single dahlia or a single China aster, is not in reality one flower, but an assemblage of small flowers or *florets*, of which the yellow central ones are furnished with stamens and pistils, and the spreading, petal-like ones are furnished with pistils only. Consequently, when the central florets are changed into spreading florets, they still continue to have pistils, and are capable of producing seeds, provided that pollen, either from the same flower, or from another flower of the same kind, falls on them. But in the case of a double stock or wall-flower, both stamens and pistils are wanting; these flowers, therefore, are always barren.

This is as much as is necessary for you to know at present about the structure of a plant, but if you desire to become a good gardener, it will be necessary for you to make the science of Botany your study; and you will find that every new discovery in one science throws light on the other.

MAXIMS.—Grow nothing carelessly; whatever is worth growing at all, is worth growing well.

Many kinds of garden seeds lose their vegetative power, if kept over the first year; be sure, therefore, to sow none but new seeds.

Melons, cucumbers, and other plants of the gourd tribe, form an exception to this rule; their seeds should not be sown until they are several years old, for they will then produce plants with scanty foliage but abundant fruit.

The seeds of most weeds will retain their vegetative power for an unlimited number of years; take care therefore, that all weeds are destroyed as soon as they appear, so that they may not ripen their seeds.

LOVE OF FAME.—The love of fame not regulated by principle, is more dangerous to the welfare of society, than the love of money.

FACT NOTICED RESPECTING BULBOUS ROOTS.—The *Magazine of Horticulture* says:—"What is in common language termed a bulbous root, is by LINNÆUS termed the hybernacle, or winter lodge of a young plant. The bulbs in every respect resemble buds, except in being produced under-ground, and include the leaves and flower in miniature which are to be expanded in the ensuing spring. By cautiously cutting (in the early spring) through the concentric coats of a tulip root longitudinally from the top to the base, and taking them off successively, the whole flower of the next summer's tulip is beautifully seen by the naked eye, with its petals, pistil and stamen. The flower exists in other bulbs in the same manner; but the individual flowers of others being less, they are not so easily detected, or so conspicuous to the naked eye. In the buds of the *Daphne mezereum*, and in those of the *Hepatica*, and at the base of the *Osmunda lunaria* a perfect plant of the future year may be found, complete in all its parts."

FARMERS SHOULD BE READING MEN.—Boys, you who intend to be farmers, hear what the Rev. J. A. NASH says:

"Science—we do not mean hard names, but truth as developed in nature—claims and should receive your attention. We insist upon it that the farmer should be a scientific man. A little reading, in connection with the extensive observation his employment favors, would make him such. Agriculture itself is the grandest noblest, and most useful of sciences. The loftiest intellects in the world are this moment engaged upon it, are delving deep for its hidden truths, and will yet bring them out for the benefit of mankind. It is yours to practice it, but study it also. Read your agricultural papers with an earnestness next after that with which you read your Bible. One may be a good farmer without being much of a man; or he may be the latter without being the former. We confess to a little ambition;—we should want to be both. If we had a son leaving us for this employment, we would say *don't be an unintelligent farmer*. After counselling him on the higher obligations of a reasonable being, we would say, putting the least important first, *make your farm a model farm*, and yourself a *MODEL MAN*; and we would say, you cannot do it without reading; and past education, however good, can not, must not be relied upon."

HINTS.—When I see a man hanging around the store, shop, or tavern, or loitering about home, because he has nothing to do, I am apt to think he likes company better than work, and is unwilling to work for what he can earn; that he promises to work for more persons at a time than would be best, and that he could find those in his neighborhood who would be glad to hire him to work in order to obtain their just demands. I am apt to think, too, that he owes for some pig, bushel of corn, a few pounds of pork, house rent, or some other necessary, which on quarter-day will look rather squally. But I am apt also to think if he becomes punctual in paying these little debts, faithful in his business, not extortionary in his wages, punctual in all his promises, and rendering himself useful to his employers to the best of his abilities, that he would be apt to find his business on the increase, wages improving, *less sauntering*, a firm demand for his labor, an increase in his pocket, a sweeter nap at night, a pleasanter wife, and *withal*—and what is best of all—a clear conscience.

Editor's Table.

THE GENESEE FARMER FOR 1856.—The first number for the new year, dear reader, is before you, and we think it will not only compare favorably with any previous issue of this old and favorite journal, but with any agricultural publication in Europe or America. With additional editorial assistance, and the best our country affords, with increased experience, and every necessary facility for making a National Agricultural Journal of which every intelligent agriculturist may be proud, we appeal to our friends everywhere to aid us in extending our circulation. Every one has friends and neighbors who would be benefited by taking the *Genesee Farmer*,—and they would cheerfully do it if solicited. Let every subscriber consider himself an agent, authorized to form clubs and extend the circulation and usefulness of the *Genesee Farmer* as far as in his power. Hundreds are doing so now, and to them we are under great obligations. Let still others take hold of this work.

Those who have sent 50 cents for a single copy, can send \$1.50 more for a club of five, or \$2.50 more for a club of eight. Those who have sent \$2.00 for a club of five, can send \$1 more and increase the club to eight, and be entitled to a copy of the *Rural Annual* for getting up the club.

Look at the *Premium List* for 1856, and see what liberal offers we make our agents.

UNITED STATES AGRICULTURAL SOCIETY.—We have received the following circular from the President of this society:

"The Fourth Annual Meeting of the United States Agricultural Society will be held at Washington, D. C., on Wednesday, January 9, 1856.

"Business of importance will come before the meeting. Reports from its officers will be submitted, and a new election be made, in which it is desirable that every State and Territory should be represented.

"Lectures and interesting discussions are expected on subjects pertaining to the objects of the association, by distinguished scientific and practical agriculturists. The *Transactions* of 1855, containing a full account of the late Exhibition at Boston, will be distributed to such members as are present.

"The various Agricultural Societies of the country are respectfully requested to send delegates to this meeting; and all gentlemen who are interested in the welfare of American Agriculture, who would promote a more cordial spirit of intercourse between the different sections of our land, and who would elevate this most important pursuit to a position of greater usefulness and honor, are also invited to be present on this occasion.

"MARSHALL P. WILDER, President.

"W. S. KING, Secretary."

REAPING MACHINES.—The whole number of reaping and mowing machines estimated to have been sold in the United States during the past season is upwards of fifteen thousand, possessing a value of two millions of dollars.

It is estimated that the farmers of Jefferson county, N. Y., made in 1854 three million pounds of butter and the same amount of cheese.

PROFESSOR JOHNSTON.—In view of the great loss which has befallen the agricultural world in the decease of the late Professor Johnston, of England, we think that at this time the following extract from an article in the November number of *Blackwood's Edinburgh Magazine* will prove particularly interesting to our readers who have for many years been acquainted with his numerous and valuable writings on scientific and practical agriculture.

"Death has struck a bright name from the roll of Science, by removing from us Professor JOHNSTON, of Durham. It is no exaggeration to say that the death of this eminent writer is a national loss; for by it the country has been bereft of one who has done more than has ever yet been done to preach science to the masses, and to set its laws, discovered in the laboratory, a-working in our fields and factories. The professional pursuit of science has two phases. One of these consists in the discovery of occult laws of nature, and the detection of valuable properties in matter; the other consists in publicly setting forth these discoveries in such a way that they become known and appreciated by the masses, and, being applied in the arts of life, prove a permanent addition to the comforts and resources of mankind. Distinguished in the first of these departments of science, Professor JOHNSTON was without an equal in the second. Though not devoid of high speculative power, his love of the useful, and his eminently practical turn of thought, attracted him ever to subjects of national importance. To the farmers especially, struggling with the competition of foreign grain, his science did good service; and if our fields are now greener, our crops heavier, and our stock fatter, we owe somewhat of this great boon to him. To convert the truths of science into tangible results,—that was his chief aim,—and who ever succeeded so well in it as he? Untiring industry and a prescient tenacity of purpose marked his career. Conscious of good talents, and of a strong natural predilection for scientific pursuits, the development of this aim of his life, though at times moving but slowly, or even to appearance standing still, was ever uppermost in his thoughts. While he taught as a tutor, or trained as a schoolmaster, the aim of his life was still present to him,—still quietly and resolutely worked after, and in due time it came. He broke from the obscurity of his little-noticed novitiate into a reputation which is more than European. And now, when he had reached the zenith of his powers—when the fruits of long years of patient and admirably directed study were being so attractively developed, he has passed away, leaving the traces of his matchless handiwork in many a department of applied science, but with no one for the present to take up his mantle.

"To such regrets at the loss which science has sustained by the death of Professor JOHNSTON, we must add others of a personal character. Not seldom has the Professor's graphic and ever-interesting pen contributed to this magazine: and his untimely death recalls vividly to mind a tribute which he paid to a fellow-worker in science, cut off in circumstances very analogous to his own. Two years ago, when alluding to a work of Dr. PEREIRA's, he spoke of its author in the following touching and most generous terms, than which none fitter can now be used in regard to himself:—'Snatched suddenly from the midst of his labors, there are few in any way familiar with the subject who will not regret the extinction of so much learning, and, apart from all private considerations, that the world should have so prematurely lost the benefits of his ripening judgment and experience, and the result of his extended reading and research. Yet how many precious cabinets of collected knowledge do we see thus hurriedly sealed up forever! How often, when a man appears to have reached that condition of mental culture and accumulated information, in which he is fitted to do the most for the advancement of learning, or for promoting the material comfort of his fellows—how often does the cold hand suddenly and mysteriously paralyse and stop him! He has been permitted to add only a small burden of earth to the rising mound of intellectual elevation—scarcely enough to signify to after-comers that his hand has labored at the work. Nevertheless, he may have shown a new way of advancing, so that to others the toil is easier and the progress faster, because he has gone before.'"

A GOOD TURNIP CROP.—The Biggar (Scotland) Farmers' Club recently awarded a silver cup to Mr. WILLIAM GIBSON, of Overburns, Lamington, Scotland, for the Largest Crop of Turnips on Five Acres in One Field. A portion of the field with *White Globe* turnips produced 48 tons 16 cwt. (gross) per Scotch acre, which, we believe, is about one-fifth larger than the English acre. The other portion of the field was sown with the *Green Top Yellow* variety, and produced 23 tons 4 cwt. per Scotch acre. On another farm entered for competition, this latter variety yielded 38 tons 5 cwt. per acre. In the former case the land was manured with 20 yards dung and 3 cwt. Peruvian guano per acre; and in the latter with 15 yards of dung, 3 cwt. Peruvian guano, and 2 cwt. superphosphate of lime per acre. The turnips were sown in drills 30 inches apart, and hoed out in the rows about 11 inches apart.

ANOTHER LARGE CORN CROP.—The *Germantown Telegraph* contains an account of a crop of corn raised the past year by J. and E. THORNTON, of Byberry, Penn., one acre of which, by actual admeasurement yielded *one hundred and two bushels and twenty-one quarts of well-cleaned corn.*

"The field contained nine acres, timothy sod, had been mowed three times; there were sixty ox-cart loads of barn-yard manure spread on the field in the fall—plowed from the 5th to the 15th of April six inches deep, rolled and well harrowed. The corn was planted in the first week of May, in rows four and half feet wide and two feet apart in rows, three grains in each hill, afterwards thinned down to two stalks; a gill of ashes, unleached, was applied to each hill at the time of planting." The corn was worked with cultivator and plow *one way.*"

A GREAT GRAIN WAREHOUSE.—It appears to be admitted that Chicago is the greatest grain market in the world; the daily receipts of grain being estimated at 111,000 bushels. The following account of a grain warehouse in that city gives some idea of the magnificent scale on which the grain business is conducted in Chicago:

"The building is 80 feet by 180, and capable of storing 300,000 bushels. The receipts of grain per day amounted to 40,000 bushels, from boats, railroads, and teams. By means of elevators, 5,000 bushels can be discharged from the vessel and stored in two hours and a half. A vessel can be loaded from the storehouse with 15,000 bushels of wheat or corn in three hours. Railroad cars can be discharged and the grain stored in fifteen minutes each."

FARMERS' READING ROOMS.—By a notice in our advertising columns it will be seen that SAXTON & Co, New York, have established a "Farmers' Reading Room" at 140 Fulton street, furnished with all the agricultural and horticultural journals of the United States and Europe, the free use of which they offer to all their friends. An opportunity is here offered to agriculturists visiting the city to pass an hour with pleasure and profit such as is seldom enjoyed, and of which they should not fail to avail themselves.

GREAT WHEAT CROP.—California farmers either raise extraordinary crops or tell extraordinary stories. Witness the following:—The San Jose Telegraph says that MICHAEL MARSHALL, living near Reed's Mills, adjoining San Jose, raised 87 bushels of wheat to the acre. Another California paper mentions another wheat crop in that State which, on the whole crop, averaged over 60 bushels to the acre the present season.

BOUND VOLUMES.—The volumes of the *Genesee Farmer* from 1847 to the present time, half-bound in sheep, for sale at this office at 62½ cents per volume.

TO THOSE WHO FORM CLUBS FOR 1856.—We do not ask that all the members of a club should receive their papers at one office. We are willing to send to as many Post Offices as there are members of the club, if necessary for the convenience of subscribers. But where it is practicable, Post Masters would accommodate us by keeping a list of the subscribers at their office, and allowing us to send the whole number to their own address. This saves us the trouble of writing on all the papers. Many have done this the present year.

OUR friends ordering the *Farmer* will be particular in giving the names of the Post Office, County, and State; also in writing names plain, as by this much perplexity may be avoided to ourselves and subscribers.

AGRICULTURAL BOOKS AND LIBRARIES.—We refer all to our offer of Agricultural Books. We know of no better way in which a young man could obtain a few good Agricultural Books than by obtaining subscribers to the *GENESEE FARMER*. The fall and winter months afford leisure, and the price of the *FARMER* is so low and its merits so well appreciated, that few will refuse to subscribe if solicited. We will send specimen numbers and show-bills to all who apply.

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY FOR 1856.—Copies of this work will be sent by mail free of postage to any one remitting to this office the price of the book—paper cover, 25 cents: cloth, 50 cents.

TO OUR CANADIAN FRIENDS.—We shall continue to furnish the *FARMER* to our Canadian subscribers free of American postage.

SALT.—The quantity of salt manufactured the present season at the Onondaga Salt Works, at Syracuse, N. Y., is about *six millions of bushels*. The average price is about \$1.40 per barrel, making the whole crop worth \$1,600,000.

Notices of New Books, Periodicals, &c.

INSTRUCTION FOR THE ANALYSIS OF SOILS, LIMESTONE, AND MANURES. By JAS. F. W. JOHNSTON. Cleveland, Ohio: S. B. SHAW.

We have received this manual from the publisher, and cannot better inform our readers in regard to it than to quote the following from the author's preface:—"This little work is not intended to compete with treatises on chemical analysis, such as those of ROSE and FRESENIUS, which are the text books of the accomplished analyst. Originally published as an appendix to my lectures on agricultural chemistry and geology, it has been much in demand also in a separate form. I have, therefore, given to this third edition a more widely practical bearing, by including limestone, clays, ironstones, manures, and natural waters among the substances to be analyzed. * * * To the schoolmaster, the farmer, the pharmaceutical chemist, and druggist, the youthful student, to the rural, the training, or normal school, and the agricultural laboratory I offer it as a first help to practical and economical chemical analysis." To commend it would be superfluous.

TRANSACTIONS OF THE NEW HAMPSHIRE AGRICULTURAL SOCIETY FOR 1854.

A copy of the above work was received so late before going to press that we are unable to give it a satisfactory examination. The appearance of the volume is very creditable, and judging from the titles of some of its essays, we should think it contained much valuable matter, but will defer further notice until a future number.

VILLAGE AND FARM COTTAGES. The requirements of American Village Houses considered and suggested, with designs for such Houses of moderate cost. By H. W. CLEVELAND, WM. BACKUS, and SAMUEL D. BACKUS. New York: D. APPLETON & Co.

From a limited examination of this work we deem it a valuable acquisition to the community at large, and especially to those intending to build, with moderate means, but at the same time desirous of combining in their structures taste and convenience. The designs here furnished are for buildings varying in cost from \$575 to \$3,000. The engravings in the volume are elegant, and the whole work is executed in that high style of art which characterizes everything emanating from the press of its celebrated publishers. For sale in this city by D. M. DEWEY.

APPLETON'S CYCLOPEDIA OF BIOGRAPHY, Foreign and American. Embracing a Series of Original Memoirs of the most distinguished persons of all times. Edited by FRANCIS D. HAWKS, D. D. With numerous Illustrations. New York: D. APPLETON & Co.

We have received a specimen sheet of this work, and if we may be allowed to judge of what the whole will be from the pages before us, we will say without hesitation that it will be one of the most valuable works of the kind ever published in the English language, and will soon become a standard for reference. The execution is admirable.

THE YEAR BOOK OF AGRICULTURE: or, The Annual of Agricultural Progress and Discovery, for 1855 and 1856. Exhibiting the most important Discoveries and Improvements in Agricultural Mechanics, Agricultural Chemistry, Agricultural and Horticultural Botany, Agricultural and Economic Geology, Agricultural Zoology, Meteorology, etc. Illustrated with numerous engravings. By DAVID A. WELLS, A. M. Philadelphia: CHILDS & PETERSON.

This work, which is principally compiled from the standard agricultural and horticultural journals of this country and Great Britain, contains in a small compass a mass of information exceedingly valuable to all engaged or interested in rural affairs. For sale by E. DARROW & Bro., of this city.

UNCLE JOHN'S FIRST and UNCLE JOHN'S SECOND BOOK. Price, 31¼ and 37½ cents.

These are two little gems for children learning to read. The lessons are skillfully graduated from the very simplest to those that are more difficult. The matter is entertaining and instructive, and illustrated by a great number of beautiful engravings; they are handsomely bound, and are just the articles for Christmas presents to the little ones. Published by D. APPLETON & Co., Broadway, New York and for sale by D. M. DEWEY, Rochester.

MEXICO AND ITS RELIGION. With Engravings. By R. A. WILSON. New York: HARPER & BROTHER.

The above is an interesting work from one whose extensive acquaintance with the subjects of which he writes enables him to treat them in a superior manner; and from a hasty perusal of its pages we should think that its merits would successfully advocate its claims to popular favor.

ROSE CLARK. By FANNY FERN. New York: MASON & BROTHERS. 417 pages. Price, \$1.25.

An extremely interesting work, and equal to any of the other productions from the pen of its talented and celebrated authoress. For sale in this city by D. M. DEWEY.

OUT OF DEBT OUT OF DANGER. By COUSIN ALICE. Price 75 cts.

A charming story for young people, finely written, and inculcating an excellent maxim. Published by D. APPLETON & Co., Broadway, New York, and for sale by D. M. DEWEY, Rochester.

PRACTICAL COOKERY and DOMESTIC ECONOMY. By Miss HALL. New York and Auburn: MILLER, ORTON & MULLIGAN.

A book of 436 pages, containing a host of recipes. For sale by D. M. DEWEY, Rochester.

WANZER, McKIM & Co., Publishers, Buffalo, N. Y., announce the forthcoming of a new work, entitled "The Sacred Plains," by J. H. HEADLEY. It will be published in one volume, 12mo., cloth, and will be elegantly illustrated. In their circular they say:—"The author has strictly adhered to sacred history and geographical accuracy in fixing his facts, and he has greatly added to the interest of the volume in having woven in an amount of interesting matter and entertaining detail concerning the various scenes, which cannot fail to engage the earnest attention of the reader."

HENRIETTA ROBINSON. By D. WILSON. New York and Auburn: MILLER ORTON & MULLIGAN. For sale in this city by D. M. DEWEY.

This is a well written account of those acts which have caused the unfortunate subject of this volume, under the above fictitious name, to acquire that unenviable notoriety in this country which she now possesses.

THE REFUGEE: or, the Narratives of Fugitive Slaves in Canada. Related by themselves; with an account of the history and condition of the colored population of Upper Canada. By BENJAMIN DREW. Boston: JOHN P. JEWETT & Co. 1556, 390 pages.

For sale by D. M. DEWEY, Rochester.

THE MYSTERIOUS STORY BOOK: or, The Good Step-Mother. By Whom? Price, 75 cents.

This is another well written book for the young, illustrated with a number of elegant engravings. Published by D. APPLETON & Co., Broadway, New York, and for sale by D. M. DEWEY, Rochester.

Inquiries and Answers.

E. L.—Toronto, Iowa. The Messrs. FOWLER & WELLS, New York City, advertise for sale a Hand-Mill that will grind wheat or corn for family use. Do not know the price. By addressing them you will obtain full particulars.

I HAVE waited some time in hopes of seeing some notice of a disease—blight or whatever it may be called—that appeared in this town the last summer and affected the plum trees. In August I noticed the leaves were dropping off my plum trees, and on examining them found the leaves were eaten on the under side and some small holes pierced through, and there were small black worms on the leaves from one-sixteenth to one-fourth of an inch in length. Nearly all the plum trees were similarly affected, some, however, more than others; the plums did not ripen, remained sour, and finally dropped off. Some of my trees put out new leaves in September. I should like to be informed whether this is a solitary case, and if there is any remedy or preventive. WM. H. HYDORN—Heron, Pa.

The black worm is no doubt the slug worm (*Tenthredo* or *Selandria cerasae*) which destroys the leaves of the cherry and of the pear, and frequently infests the plum. It is easily killed by dusting ashes or lime over the tree when the dew is on; if once does not suffice, the operation should be repeated until the foe is destroyed. Of course it was impossible for the fruit to ripen when the trees were divested of their foliage.

CULTIVATION OF BARLEY.—I should like to be informed through the medium of the *Genesee Farmer* the most suitable soil for raising barley. I have a few acres of newly cleared land which is too wet for winter wheat, and spring wheat grows too rank to fill well. Subsoil is clay, with a slight surface of vegetable mold. The cultivation of barley has received but little if any attention in this section of the country, and any information you can give will be thankfully received by your patrons in this vicinity. H. C. ELY—Richfield, Ohio.

Will some of our correspondents give us their experience on this subject?

PREMIUMS FOR 1856!

We ask the attention of our friends everywhere to the *Premiums* we offer for the coming year. There is no better way to procure good agricultural reading than by obtaining subscribers for the *Genesee Farmer*.

1. To every person who sends us a club of eight subscribers at our regular terms, (*three shillings each*) we will give one copy of the *Rural Annual* and his trouble.

2. To every person who sends us *SIXTEEN* subscribers at our club terms of *three shillings each*, one extra copy of the *Farmer* and one copy of the *Rural Annual*.

3. To every person sending us *TWENTY-FOUR* subscribers, as above, two copies of the *Rural Annual*, and one extra copy of the *Farmer*, or any agricultural work valued at 50 cents, *postage paid*.

4. To any person ordering *THIRTY-TWO* copies of the *Farmer*, three copies of the *Rural Annual* and one extra copy of the *Farmer*, or any agricultural book valued at 75 cents, *postage paid*.

5. For *FORTY*, four copies of the *Rural Annual* and one extra copy of the *Farmer*, or any agricultural book valued at \$1, *postage paid*, or four extra copies of the *Farmer*.

6. For *FORTY-EIGHT*, five copies of the *Rural Annual* and one extra copy of the *Farmer*, or any agricultural book valued at \$1.25, *postage paid*, or five extra copies of the *Farmer*.

For larger numbers, books or papers given in the same proportion.

To save expense to our friends, we pay the postage on all these works, and persons entitled will state what they wish sent, and make their selections when they send orders; or if their list is not complete, if wished, we will delay sending until the club is full.

Premiums for the Greatest Number of Subscribers.

In order to excite a little competition among our friends everywhere, as well as to reward them for their voluntary labors in behalf of our journal, we make the following liberal offer. Those who do not get the premiums offered below are sure of the above, so that we have no blanks.

1. *FIFTY DOLLARS*, in Agricultural Books, to the person who shall send us the largest number of subscribers, at the club prices, before the 15th day of April next, so that we may announce the successful competitors in the May number.

2. *THIRTY DOLLARS*, in Agricultural Books, to the person who shall send us the second highest list, as above.

3. *TEN DOLLARS*, in Agricultural Books, to the person who shall send us the third highest list, as above.

Our object in offering books is to increase their circulation throughout the country. Those who prefer nursery trees, plants, &c., can be accommodated; and if any prefer the money, we will make arrangements accordingly.

Clubs are not required to be at one post office or sent to one address. We send wherever the members of the club may desire.

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY.—We have just published a very neat little book of 120 pages with the above title. It is devoted to the *Orchard*, the *Vineyard*, and the *Flower Garden and Lawn*; and we shall only express the opinion of all who have seen it, when we say that it is the best little work yet published on the subjects of which it so plainly and carefully treats. Anxious to make the circulation of this useful little work as general as possible, we make the following proposition, to those who form clubs for the *Genesee Farmer*: For *FOUR DOLLARS* we will send *eight copies* of the *Genesee Farmer* and *eight copies* of the *Rural Annual*. For *EIGHT DOLLARS* we will send *sixteen copies* of the *Genesee Farmer* and *sixteen copies* of the *Rural Annual*, and one extra copy of each for the person who gets up the club.

Any person sending us \$3 for a club of eight of the *Genesee Farmer* shall receive one copy of the *Rural Annual* for his trouble.

The Practical and Scientific Farmer's Own Paper.

THE GENESEE FARMER,

A MONTHLY JOURNAL OF

AGRICULTURE AND HORTICULTURE,

ILLUSTRATED WITH NUMEROUS ENGRAVINGS OF

Farm Buildings, Animals, Implements, Fruits, &c.

VOLUME XVII. FOR 1856.

IN issuing a prospectus for the Seventeenth Volume of the *Genesee Farmer*, the publisher flatters himself that it is a well-known, too extensively circulated, and too well read to render it necessary to state at length the design of the work. Those who read the *Farmer* are the best judges of its value, and those unacquainted

with it are requested to examine its pages. He will only say that for the year 1856 he will furnish a paper that for size, beauty, and ability, will not be excelled in this country.

The new volume will commence on the first of January, and will be printed on NEW TYPE and SUPERIOR PAPER, and each number will contain about ONE-THIRD more reading than at present. Each monthly number will consist of THIRTY-TWO large pages, making a volume of 384 pages, with several hundred engravings, (with title page, index, &c., suitable for binding), at the close of the year. No one would sell the volume at the end of the year for its cost.

Our illustrations are NUMEROUS, APPROPRIATE, and EXPENSIVE, consisting of Farm Buildings, Improved Implements, Domestic Animals, Choice Fruits, Flowers, Shrubs, &c., &c.

We number among our Contributors hundreds of the best practical Farmers in the country, and our readers have through our pages, the benefit of their wisdom and experience. No thinking man can read any number we issue, without receiving some useful hint in regard to the management of Crops, Stock, or the Orchard, of more value than the price of the volume. Our large circulation enables us to furnish a paper for three or four shillings equal, at least, to the best in the country for value and beauty.

An earnest advocate of improvement of both the MIND and the SOIL, the FARMER seeks to advance the rural interests of the country, and elevate the profession of Agriculture to its proper position. To accomplish this, it has labored long and faithfully, and not without some success. It is one of the oldest, and its position as the CHEAPEST, and at least one of the BEST AGRICULTURAL JOURNALS in the country is fully established, and we confidently ask for it that support which it merits from the Farmers, Gardeners, and Fruit Cultivators of the United States. We invite all who feel the importance of sustaining this work, and extending its usefulness, not only to subscribe themselves, but to introduce it to the patronage of their friends.

Fifty Cents a Year, in Advance.

Five Copies for \$2; Eight Copies for \$3; and any larger number at the same rate.

All subscriptions to commence with the year, and the entire volume supplied to all subscribers.

POST-MASTERS, FARMERS, and all friends of improvement are respectfully solicited to obtain and forward subscriptions.

Subscription money, if properly enclosed, may be sent (post-paid or free) at the risk of the Publisher. Address

JAMES VICK,

November, 1855.

Rochester, New York.

1856.

EVERYBODY SHOULD HAVE A COPY.

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY.

CONTAINING directions for the preparation of the ground for the Orchard and Fruit Garden, planting, pruning, &c. Also plain directions for making and planting the Lawn and Flower Garden, and a Catalogue of Nurserymen in the United States, Canada, and Europe, etc. Illustrated with Sixty Engravings.

SYNOPSIS OF CONTENTS.

THE FRUIT GARDEN AND ORCHARD.

Preparation of the Ground.—Suitable Soils, Draining, Subsoiling, and Trenching, Manures, etc.

Directions for Planting, Pruning, etc.—Proper Season for Transplanting, Laying out the Ground, Distances at which Trees should be Set, Planting, Mulching, Pruning, Staking, etc.

Diseases.—Fire Blight, Leaf Blight, Black Knot on the Plum, Yellows in Peach Trees, Bursing of the Bark, or Gum on Cherry Trees, Mildew on the Peach, Curl of the Leaf in the Peach.

Insects Injurious to Fruit Trees.—Aphis, or Plant Louse, Woolly Aphis, or American Blight, Scaly Aphis, or Bark Louse, Apple Tree Borer, Apple Worm, Canker Worm, Caterpillars, Cherry or Pear Slug, Curculio, &c., Peach Tree Borer, Rose Bug, Leaf Rollers, &c.

Animals Injurious to Fruit Trees.—Birds, Field Mice, Moles, Cats, Hogs, &c.

Dwarf Trees for the Garden.

List of Fruits Recommended by State Societies.

List of Fruits Recommended by the American Pomological Society.

THE VINEYARD.

Soil and Position, Preparation of the Soil, Laying off, Planting, Trellising, Pruning and Training, Rubbing out and Pinching.

THE LAWN AND FLOWER GARDEN.

Preparing the Soil and Laying out the Garden.

Planting the Lawn and Garden.—Deciduous Trees, Evergreen Trees, Shrubs, Roses, Bedding Plants, &c.

LIST OF NURSERYMEN IN THE UNITED STATES, CANADA, AND EUROPE.

Published at the office of the *Genesee Farmer*, by JAMES VICK. For sale at retail, paper covers, 25 cents; cloth covers, 50 cents. Wholesale, paper covers, \$2 per doz.; \$12.50 per hundred; \$60 for 500; cloth, \$4 per dozen.

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

FOR SALE.

THE FINEST SPORTING PROPERTY IN CANADA.

THE place is known as "Ryerson's Island," and contains 191 acres per deed—is situated about one mile east of Long Point, in Lake Erie, and about eight or ten miles from Port Rowan and Normandale in Norfolk county.

The soil is very rich. Corn, cabbage, tomatoes, potatoes, and almost all vegetation is of the most luxuriant growth, and can be in market nearly three weeks before the same are produced on the main land. A small portion is under cultivation. It offers great advantages for raising Cows, Oxen, Sheep, and all kinds of Stock, as an extensive Grazing or Market Farm. Twenty to thirty or forty tons of excellent hay can be had just by cutting and curing Wild Grapes are very abundant and large. Every spring and fall it abounds with Wild Fowl—Wild Ducks innumerable, of almost every variety—(one gentleman shot and bagged 88 in part of one day last year)—Geese, some Swans, Plovers in flocks, Woodcocks, Pigeons, etc., all summer. Turtles of different kinds and size are very plentiful. Deer, Coons, Muskrats, etc., are in great numbers on Long Point. THE FISHING ADVANTAGES ARE STILL GREATER, either with hook and line, nets, or otherwise. The fish are caught in great quantities, and are very large and fine. The delicious Muscalunge, weighing from 30 to 40 pounds; the Sturgeon, from 75 to 100 pounds; the Cat and White fish, and Herring are very plentiful. THE PLEASURE BOAT is a great luxury here, being just far enough from the main shore not to be annoyed. It can be made a superior place of PUBLIC RESORT, being known to large numbers of sporting gents, all along from New Orleans, Canada, New York, etc. It is very HEALTHY, and can be reached from different points along the lake by Steamboat, which leaves Buffalo in the evening, and arrives early next morning; there are also Railroad advantages approaching. Terms very reasonable. Apply to

RICH. RICHES, Ryerson's Island,

Normandale P. O., Canada West.

Jan.—4t.

TO AGRICULTURAL AND HORTICULTURAL SOCIETIES.

WE would particularly invite the attention of those societies who are about to make up their PREMIUM LISTS for 1886 to our large collection of Agricultural Books, which are peculiarly adapted for premiums.

The awarding of Agricultural Books in the place of small Money Premiums has been extensively adopted, and has given the highest satisfaction.

ADVANTAGES OF THIS PLAN.

It promotes the dissemination of much-needed information among farmers.

It combines the advantages of a Diploma with a Premium of intrinsic value.

It substitutes a permanent and expressive token of honor for the pittance which is frequently humiliating to the recipient.

It avoids the fostering of a mercenary spirit among competitors, and better comport with the dignity of an honorable emulation between friends and neighbors.

We will take pleasure in furnishing to applicants a catalogue of our publications which we consider most appropriate for the use of Agricultural Societies for premiums, on which a liberal discount will be given.

C. M. SAXTON & Co.

Jan.—1t. Agricultural Book publishers, 140 Fulton st., N. Y.

C. M. SAXTON & CO'S AGRICULTURAL BOOK ROOMS, 140 FULTON STREET, NEW YORK.

C. M. SAXTON & Co. have removed to their new and commodious rooms, No. 140 Fulton street, where, in addition to their large stock of Agricultural Books, may be found a

FARMERS' READING ROOM,

Supplied with all the Agricultural Journals of the United States, and the best Agricultural and Horticultural Periodicals of England, France, and Germany; the free use of which they tender to all their friends.

Jan.—1t.

LITTLE GIANT CORN AND COB MILL.

THIS is doubtless one of the most important inventions of modern times for the farmer and stock grower. Its simplicity and durability recommend it to every one desiring such a machine. It occupies but little space, and is easily operated by any farm hand. Prices from \$40 to \$65. For sale at the Chicago Agricultural Warehouse and Seed Store, 45 Franklin street, Chicago, Ill.

Jan.—2t.

HENRY D. EMERY.

PLEASANT AND PROFITABLE EMPLOYMENT.

IN every town and village, for any number of young men, to sell Valuable Books, and to canvass for our Popular and Scientific Journals. All who engage with us will be secured from the possibility of loss. Profits very liberal. Please address

Nov.—3t.

FOWLER AND WELLS,

308 Broadway, New York

CHICAGO AGRICULTURAL WAREHOUSE & SEED STORE

Warehouse and Sale Room 45 Franklin street, between John and Randolph streets.

THE subscriber, formerly connected with the "Albany Agricultural Works, Albany, N. Y.," has opened a depot in Chicago, where may be found at all times a complete assortment of

FARM MACHINERY AND IMPLEMENTS,

of most approved kinds; also a full stock of Garden & Field Seeds. Full Catalogues furnished gratis on application.

Jan.—2t

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Nov.—tf.

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THE SATURDAY EVENING POST.

ESTABLISHED AUGUST 4, 1821.

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In issuing their prospectus for 1856, the proprietors of the Post take it for granted that the public are already tolerably well acquainted with the character of a paper that has grown strong during the storms and sunshine of THIRTY-FOUR YEARS. Their object always has been, as it remains to be, to publish a weekly paper for the family circle, which shall not only amuse, but also instruct and improve those who may read it. To accomplish this object, the best articles are selected or condensed from foreign and domestic periodicals, and original articles of an instructive character procured, when possible.

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Among our contributors in the first two of the above departments, are several of the most gifted writers in the land. We also draw freely for Fiction and Poetry upon the best periodicals in this country and Great Britain. We design commencing a new story by Mrs. SOUTHWORTH, author of "The Deserted wife," "Miriam," &c., in our first paper of January next.

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In another column is an advertisement of the Saturday Evening Post. Our readers may rely upon it, that Deacon & Peterson will be as good as their word. So far as we can judge by years of observation, these publishers do rather more than they promise; and their paper is edited with very marked ability. It is singularly free from silly sentimentalism and bluster, but it is of a healthy tone on all subjects, always moderate in language, but always mildly advocating the right. We find it one of the most generally attractive papers in our exchange.—*Saturday Visitor, Pittsburg, Pa.*

We have heretofore spoken in high terms of the merits of the Post, as one of the best papers on our exchange list, and we regard it as one of the best literary papers to be found anywhere. Its editorials are written with ability, and take a liberal, independent, and comprehensive view of men and things.—*Star and Advertiser, Wrightsville, Pa.*

The editorial department is conducted with ability and skill, and the news department, for a weekly paper, is exceedingly full and complete. All things considered, the Post is not excelled, for family reading, by any paper that we know of.—*Gazette, Fulton, N. Y.*

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We regard it as the best of the Philadelphia literary papers. Its editorials are written with ability, and take a comprehensive view of whatever is discussed.—*Echo, Johnstown, Pa.*

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It is a paper of the largest size, and is edited with ability. It is highly spoken of by its readers, some of whom have clung to it for the last quarter of a century. It is too well and favorably known to need lengthy commendation. It tells its own story each week, and if you send for it once, you will be very sure to do so again.—*Valley Times, Cedar Rapids, Iowa.*

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We are in weekly receipt of this invaluable family journal, and should feel very much at a loss without it, as we consider it the best literary paper now published in the United States, without any exception.—*Democrat, Cambridge, Md.*

 TO EDITORS.—Editors who give the above one insertion, or condense the material portions of it (including our terms) for their editorial columns, shall be entitled to an exchange, by sending us a marked copy of the paper containing the advertisement or notice.



J. B. LAWES AND JUSTUS VON LIEBIG.

(Concluded.)

WE have, in our former articles, brought forward what we deemed conclusive evidence, that there is a great loss of ammonia in the growth of wheat. LIEBIG endeavors to set it aside by saying that the ammonia in Mr. LAWES' experiments acted beneficially because it rendered the phosphates of the soil soluble. We conceive that we have fully answered this objection in our former articles, and hope our readers will refer to them. Assuming that the action of ammonia is in rendering the phosphates soluble, LIEBIG says:

"If it had accidentally occurred to Mr. LAWES to manure his field with four, five, or six cwt. of ammonia salts, instead of $3\frac{1}{2}$ cwt., and if in those cases the yield was not increased (as we may with certainty assume would happen), then he might with the same justice assert that the loss of ammonia is 6, 8, or 10 lbs. for every bushel of increased yield. * * * It seems never to have occurred to Mr. LAWES to determine the minimum of ammonia which was effective upon his field in producing maximum crops."

We trust LIEBIG had not Mr. LAWES' papers before him when he penned these sentences, otherwise he is inexcusable. Ammonia has been applied in these experiments in *hundreds of instances*, and in various proportions; and in all cases it has produced, where unaffected by modifying causes, an increase, within certain limits, in proportion to the quantity of ammonia; and in no single instance has an increase of wheat been obtained except by a great destruction of ammonia. Quantities of ammonia, varying from 14 lbs. up to 180 lbs. per acre, have been applied; and even in these extreme cases, the increase of wheat is in proportion to the ammonia supplied in manure: the former produced $21\frac{1}{2}$ bushels, the latter 50 bushels of dressed wheat, or 55 bushels (of 60 lbs. per bushel) of total grain, per acre. The amount of ammonia applied to this latter plot would be contained in about 815 lbs. of commercial sulphate of ammonia. And yet LIEBIG says we may "*with certainty assume*" that if Mr. LAWES had accidentally manured his field with 4, 5, or 6 cwt. of ammonia salts, he would have obtained no greater increase than from $3\frac{1}{2}$ cwt. Now, as we have shown, he *did* apply—not "accidentally," however—*more* than 4, 5, or 6 cwt., and obtained a *proportional increase*. We may "*with certainty assume*," therefore, that LIEBIG has made a great mistake on this point.

The objections which Prof. LIEBIG has made to Mr. LAWES' experiments, are so utterly with founda-

tion *in fact*, that nothing but his great reputation renders them worthy of notice.

Our remarks are already far too extended, but we have just received the last *Journal of the Royal Agricultural Society of England* (Vol. XVI, Part 1), in which we find a "Report to the Earl of Leicester, on experiments conducted by Mr. KEARY, on the growth of wheat, at Holkham Park Farm, Norfolk, by J. B. LAWES," which affords much light on the subject under discussion. It is a report of an experiment in growing wheat four years in succession, by the use of the various organic and inorganic elements of plants, somewhat similar to that on the Rothamstead farm, with this important difference: "The soil at Rothamstead is a heavy wheat soil; this in Norfolk is "a light, thin, and rather shallow brown sand loam," which, previous to the introduction of turnip-culture by the late Wm. COKE, on this very farm, was considered incapable of growing wheat. A greater contrast than between it and the Rothamstead soil could scarcely be imagined. *And yet the results are the same.*

The same manures were applied to the same acre each year, and the whole of the produce removed. We have not space for the details, but the following are the aggregate results of the four years:

The first acre, on which no manure at all was used, produced in four years, $93\frac{1}{2}$ bushels, or an average of a little over $23\frac{1}{2}$ bushels per acre each year.

The second acre, dressed each year with 300 lbs. sulphate of potash, 200 lbs. sulphate of soda, 100 lbs. sulphate of magnesia, and 350 lbs. of superphosphate of lime (200 lbs. calcined bone-dust and 150 lbs. sulphuric acid), produced, in four years, 92 bushels, or an average of 23 bushels per acre each year.

The third acre, dressed each year with 200 lbs. each of sulphate and muriate of ammonia, applied *in the autumn*, produced, in four years, $125\frac{1}{2}$ bushels, or a little over $31\frac{1}{2}$ bushels per acre each year.

On the fourth acre the same quantity of ammonia applied *as a top-dressing in the spring*, gave, in four years, 124 bushels, or an average of 31 bushels per acre each year.

On the fifth acre, the same quantity of mineral manures (sulphates of potash, soda, and magnesia, and superphosphate of lime,) as applied on the second acre, and 200 lbs. each of sulphate and muriate of ammonia, produced, in four years, 145 bushels, or an average of $36\frac{1}{2}$ bushels per acre each year.

The sixth acre, dressed with a ton of rape-cake (2000 lbs.) each year, produced, in four years, 147½ bushels, or an average of $36\frac{1}{2}$ bu. per acre each year.

The seventh acre, dressed each year with 14 tons of farm-yard dung, produced, in four years, 135½ bushels, or an average of 33½ bushels per acre each year.

Without manure the soil produced 23 bushels of wheat per acre; the addition of mineral manures alone gave no increase; ammonia alone gave an increase of 8 bushels; ammonia and minerals, an increase of 13 bushels. From this it is evident that the amount of minerals annually available in this naturally poor soil, were considerably in excess of the quantity of ammonia annually available from natural sources; in fact, that there were minerals sufficient for 31 bushels, while there was only enough ammonia for 23 bushels. But the quantity of minerals annually rendered available by the disintegration of the soil, &c., although considerably in excess of the natural supply of ammonia, was not sufficient for more than an annual crop of wheat of 31 bushels per acre. To obtain more than this, it was necessary to supply, in addition to ammonia, a greater or less quantity of the mineral elements of plants. When these were supplied, the produce rose to 36 bushels.

The fact that, under these circumstances the mineral manures were taken up by the plants, and gave an increased crop, is conclusive evidence that they were in an available condition, and that their failure, when used alone, in these and in the Rothamstead experiments, is attributable to a lack of ammonia in the soil, and not to their being in an unsuitable form or improper proportion. It demonstrates that although a soil abounds in the mineral elements of plants in an available condition, sufficient ammonia or nitrogen can not be obtained from natural sources for a full wheat crop. It is additional proof, if such were needed, that ammonia does not act solely, or in any great degree, by rendering phosphates or other minerals soluble.

The ton of rape-cake was calculated to afford as much ammonia and minerals as were supplied in the artificial minerals and ammonia salts on plot 5. It also contained, in addition, a large amount of carbonaceous matter. It will be seen that the increase of wheat is nearly identical in the two cases, and it follows that the carbonaceous matter had no beneficial effect on the wheat crop. This also is a result exactly in accordance with the Rothamstead experiments.

Similar results to the above have also been obtained from experiments made on the farm of the Duke of Bedford, at Woburn, on a soil and subsoil naturally of the poorest possible description.

It will be recollected that Prof. LIEBIG endeavored to set aside the exceedingly important fact that turnips, which contain only a relatively small proportion of phosphoric acid, require in the soil, in an available condition, more of this substance than wheat, the ash of which contains five times as much as that of turnips. We showed that he founded his objections on a single typographical error, which he might have discovered on the next page. We shall not again allude to the results of Mr. LAWES experiments on this point; they are so conclusive that he must be blind indeed who can not see that they explode the idea that we can tell what manure is best adapted to this or that particular crop, from an analysis of its ashes. Our object in alluding to the matter, is to mention that, in the last *Journal of the Royal Agricultural Society*, Dr. AUGUSTUS VOELCKER, Professor of Chemistry in the Royal Agricultural College,

Cirencester, England, gives an account of some experimental trials made on the farm connected with the College, to ascertain "the comparative value of different artificial manures for raising a crop of Swedes" or ruta bagas, the results of which also accord with those obtained by Mr. LAWES. We have not room for the details of the experiments, but will quote a few of the remarks of Dr. VOELCKER:

"An extended experience has proved, in the most positive manner, the specific action of phosphatic manures, and the decided advantages which result from their application to root crops."

"Numerous comparative field experiments have established the superior value of superphosphate of lime as a manure for root crops, and have shown likewise that the greatest fertilizing effect of guano is realized by applying it to a white crop or to grass land."

"Ammonia does not exhibit the same powerful effect on other crops which it does on the cereals."

"Ammonia does not benefit root crops in an equal degree as white crops; whereas, phosphatic manures exercise a specific action on roots, which causes them to swell, and thus to increase the crop."

"Phosphoric acid, applied in a form in which it can be readily assimilated by the growing plant, more than any other fertilizing constituent, benefits root crops."

"On the whole, we may learn from these experiments, that the value of different artificial manures for a crop of Swedes, and no doubt also for other root crops, principally depends on the amount of phosphoric acid contained in them in a form in which it can be readily assimilated by the plants."

The experience of practical farmers also agrees with these experiments, in according to available phosphoric acid a high value as a special manure for turnips. One manufacturer alone sold, in Great Britain, last year, 14,000 tons of superphosphate of lime to be used as a manure for—what?—for wheat, which contains so much phosphoric acid? No; but for TURNIPS, which contain so little.

AGRICULTURAL IMPROVEMENT IN 1855.—The *Boston Cultivator*, in an excellent article on "The Old Year and the New," thus speaks of the agricultural improvements that have been made during the past year:

"Respecting agricultural improvements during the past year, we are not aware that any very striking novelties have been brought out, except sundry inventions in the mechanical line, whose utility, for the most part, remains to be tested by use. General progress has doubtless been made, though progress in this department is, and from the nature of things must be, slow. If the 'kingdom of heaven cometh not with observation,' even so come improvements in agriculture. The dissemination of knowledge is comparatively easy, under present facilities, but its origination is more difficult. True, much has been heard within the past ten years in regard to a 'new era' in agriculture. An important step in the introduction of this era, was to be the use of certain mineral manures. After the shedding of much ink in support of this idea, there is some evidence of the prevalence of more rational views in the fact that the originator of the 'mineral manure theory' denies that he ever believed it! Truth is gradually educed from the chaos in which it has been confounded with error, and its ultimate triumph is sure."

PLANTS indigenous to a country must, from the very nature of things, always be easier to cultivate than exotics.

THE APPLICATION OF LIME.

A WELL-KNOWN Virginia farmer, who is generally "down" on everything having any affinity to agricultural chemistry, writes us as follows:

"I respect your *science* more than I do that of most agricultural editors, and am about to prove my sincerity by asking you, without alluding to me, however, to write an editorial, giving the views of Prof. WAX on the application of lime—I have no access to them myself—and their adaptability to stiff clay flats, wet, but rich when drained and limed—diluvium.

"The question of applying lime to such soils is one of much interest to me, as I have several hundred acres of just such land in cultivation to which I should be happy to introduce you if you can trust yourself among slave owners."

The views of Prof. WAX, (Chemist to the Royal Agricultural Society of England,) referred to, we presume are those contained in a lecture of his delivered some three years ago, portions of which were pretty extensively copied into our agricultural papers at that time.

Prof. WAX had made a series of investigations on the "absorptive properties" of soils. He found that ordinary soils possessed the power of separating from solution in water the different earthy and alkaline substances presented to them in manure; thus, when solutions of salts of ammonia, of potash, magnesia, &c., were made to filter slowly through a bed of dry soil, five or six inches deep, arranged in a flower-pot, or other suitable vessel, it was observed that the liquid which ran through, no longer contained any of the ammonia or other salt employed. The soil had, in some form or other, retained the alkaline substance, while the water in which it was previously dissolved passed through.

Further, this power of the soil was found not to extend to the whole salt of ammonia or potash, but only to the alkali itself. If, for instance, sulphate of ammonia were the compound used in the experiments, the ammonia would be removed from solution, but the filtered liquid would contain sulphuric acid in abundance—not in the free or uncombined form, but united to lime; instead of sulphate of ammonia we should find sulphate of lime in the solution; and this result was obtained, whatever the acid of the salt experimented upon might be. It was found, moreover, that the process of filtration was by no means necessary; by the mere mixing of an alkaline solution with a proper quantity of soil, as by shaking them together in a bottle, and allowing the soil to subside, the same result was obtained. The action, therefore, was in no way referable to any physical law brought into operation by the process of filtration.

It was also found that the combination between the soil and the alkaline substance was rapid, if not instantaneous, partaking therefore of the nature of the ordinary union between an acid and an alkali.

In the course of these experiments, several different soils were operated upon, and it was found that all soils capable of profitable cultivation possessed the property in question in a greater or less degree.

Pure sand, it was found, did not possess this property. The organic matter of the soil, it was proved, had nothing to do with it. The addition of carbonate of lime to a soil did not increase its absorptive power, and indeed it was found that a soil in

which carbonate of lime did not exist possessed in a high degree the power of removing ammonia or potash from solution.

To what, then, is the power of soils to arrest ammonia, potash, magnesia, phosphoric acid, &c., owing? The above experiments lead to the conclusion that it is due to the *clay* which they contain. In the language of Prof. WAX, however,

"It still remained to be considered, whether the whole clay took any active part in these changes, or whether there existed in clay some chemical compound in small quantity to which the action was due. This question was to be decided by the extent to which clay was able to unite with ammonia, or other alkaline bases; and it soon became evident that the idea of the clay as a whole being the cause of the absorptive property, was inconsistent with all the ascertained laws of chemical combination."

After a series of experiments, Prof. WAX came to the conclusion that there is in clays a peculiar class of double silicates to which the absorptive properties of soils are due. He found that the double silicate of alumina and lime, or soda, whether found naturally in soils or produced artificially, would be decomposed when a salt of ammonia, or potash, &c., was mixed with it, the ammonia or potash taking the place of the lime or soda.

Prof. WAX's "discovery," then, is not that soils have "absorptive properties"—that has been long known—but that they absorb ammonia, potash, phosphoric acid, &c., by virtue of the double silicate of alumina and soda, or lime, &c., which they contain.

Soils are also found to have the power of absorbing ammonia, or rather *carbonate* of ammonia, from the air.

"It has long been known," says Prof. WAX, "that soils acquire fertility by exposure to the influence of the atmosphere—hence one of the uses of fallows. * * I find that clay is so greedy of ammonia, that if air, charged with carbonate of ammonia, so as to be highly pungent, is passed through a tube filled with small fragments of dry clay, *every particle of the gas is arrested.*"

This power of the soil to absorb ammonia is also due to the double silicates. But there is this remarkable difference, that while either the lime, soda, or potash silicate is capable of removing the ammonia from *solution*, the *lime* silicate alone has the power of absorbing it from the air.

It is on this fact, that the views of Prof. WAX, to which our correspondent refers, are based. Lime may act beneficially on many or most soils by converting the soda silicate into a lime silicate, or in other words converting a salt that will not absorb carbonate of ammonia from the air, into a salt that has this important property. There is no manure that has been so extensively used and with such general success as lime, and yet "who among us," says Prof. WAX, "can say that he perfectly understands the mode in which lime acts?" We are told that lime sweetens the soil, by neutralizing any acid character that it may possess; that it assists the decomposition of inert organic matters, and therefore increases the supply of vegetable food to plants; that it decomposes the remains of ancient rocks containing potash, soda, magnesia, &c., occurring in most soils, and that at the same time it liberates silica from these rocks; and lastly that lime is one of the substances found uniformly and in considerable quantity in the

ashes of plants, that therefore its application may be beneficial simply as furnishing a material indispensable to the substance of a plant.

These explanations are no doubt good as far as they go, but experience furnishes many facts which cannot be explained by any one or all of these suppositions. Lime, we all know, does much good on soils abounding in organic matter, and so it frequently does on soils almost destitute of it. It may liberate potash, soda, silica, &c., from clay soils, but the application of potash, soda and silica has little beneficial effect on the soil, and therefore we cannot account for the action of lime on the supposition that it renders the potash, soda, &c., of the soil available to plants. Furthermore, lime effects great good on soils abounding in salts of lime, and therefore it cannot be as a source of lime for the structure of the plant that it operates.

None of the existing theories, therefore, satisfactorily account for the action of lime. Prof. WAY's views are more consistent with the facts of practical experience; but they are confessedly hypothetical; and his more recent investigations do not confirm the idea that lime acts beneficially by converting the soda silicate into the lime silicate.

Thus, six soils were treated with lime water till they had absorbed from one and a half to two per cent. of their weight of lime. This, supposing the soil to be six inches deep, would be at the rate of about 300 bushels of lime per acre. The amount of ammonia as the soil was determined in the soil before liming, after liming, and then after being exposed to the fumes of carbonate ammonia till it had absorbed as much as it would. The following table exhibits the results:

	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.
Ammonia in 1,000 grains of natural soil,.....	0.293	0.181	0.085	0.109	0.127	0.083
Ammonia in 1,000 grains of soil after liming,....	0.169	0.102	0.040	0.050	-----	0.051
Ammonia in 1,000 grains of soil after liming and exposure to the vapor of ammonia,.....	2.226	2.066	3.297	1.076	3.265	1.827
Ammonia in 1,000 grains of soil after exposure to ammonia without liming,.....	1.906	2.557	3.286	1.097	2.615	2.028

No. 1. Surface soil of London clay.

No. 2. Same soil from 1½ to 2 feet below the surface.

No. 3. Same soil 3¼ feet below the surface.

No. 4. Loam of tertiary drift 4 feet below the surface.

No. 5. Gault clay—surface soil.

No. 6. Gault clay 4 feet below the surface.

It is evident that lime neither assisted nor interfered with the absorption of ammonia, and hence the beneficial effect of liming on such soils must be accounted for on some other supposition. This negative result, however, does not disprove the truth of Prof. WAY's hypothesis, for it may be that the silicate salt in the natural soils was that of lime and not that of soda. Indeed, the extent to which the natural soils absorbed ammonia—equal, in No. 3, to about 7,000 lbs. of ammonia per acre, equivalent to the quantity contained in 700 tons of barn-yard manure—shows this to have been the case.

The lime liberated one-half the ammonia contained in the soil.

"This result," says Prof. WAY, "is so nearly the same in all cases, that we are justified in believing it to be due to some special cause, and probably it arises from the existence of some compound silicates containing

ammonia, of which lime under the circumstances can replace one-half—forming, for instance, a double silicate of alumina, with half lime and half ammonia—such compounds are not unusual or new to the chemist."

This loss of ammonia from a heavy dressing of lime is very great. A soil five inches deep weighs in round numbers 500 tons, or 1,000,000 lbs. The soil, No. 1, contained .0293 per cent. of ammonia, or in an acre, five inches deep, 293 lbs. After liming it contained .0169 per cent., or in an acre, five inches deep, 169 lbs. The loss by liming is 124 lbs. of ammonia per acre. This is equal to the quantity contained in 800 lbs. of good Peruvian guano, or 12½ tons of barn-yard manure.

In commenting on this great loss of ammonia from liming, Prof. WAY observes:

"Is it not possible, that for the profitable agricultural use, the ammonia of the soil is too lightly locked up in it? Can we suppose that the very powers of the soil to unite with and preserve the elements of manure are, however excellent a provision of nature, yet in some degree opposed to the growth of the abnormal crops which it is the business of the farmer to cultivate? There is no absolute reason why such should not be the case. A provision of nature must relate to natural circumstances; for instance, compounds of ammonia may be found in the soil capable of giving out to the agencies of water and air quite enough of ammonia for the growth of ordinary plants and the preservation of their species; but this supply may be totally inadequate to the necessities of man. * * * Now it is not impossible that the laws which preserve the supply of vegetable nutrition in the soil, are too stringent for the requirements of an unusual and excessive vegetation, such as the cultivator must promote."

"In the case of ammonia locked up in the soil, lime may be the remedy at the command of the farmer—his means of rendering immediately available stores of wealth, which can otherwise only slowly be brought into use."

"In this view, lime would well deserve the somewhat vague name that has been given it, namely, that of a 'stimulant'; for its application would be in some sort an application of ammonia, while its excessive application, by driving off ammonia, would lead to all the disastrous effects which are so justly attributed to it."

"I do not wish to push this assumption too far," says Prof. WAY, in conclusion, "but if there be any truth in it, it points out the importance of employing lime in small quantities at short intervals, rather than in large doses once in many years, [as is the general practice in England.]"

THE PROFITS OF THE FARM SHOULD BE INVESTED IN IMPROVING THE FARM.—The *Homestead* says:

"We hold that no farmer can afford to invest his money off his own land until he has spent all the money that can be usefully spent in improvements thereon. When there are no more demands from the wasting manure, the useless swamp, the cold wet upland, the bush pasture, the dilapidated barn, the scantily furnished tool room, and the thousand other openings that allow profitable labor, he may begin to consider the case of Shingles, Tape, and the other candidates for his capital."

CHAPPED HANDS.—A good remedy for chapped hands is to wash them in water slightly acidulated with vinegar or lemon juice, or wash them in milk.

EDITORIAL CORRESPONDENCE FROM CANADA WEST.

PARIS, C. W., JANUARY, 1856.

WHEN I wrote my last from Hamilton, although I had traveled hundreds of miles in Canada West, and conversed with as many hundreds of intelligent Canada farmers, and had *learned* much that I did not before know of this country, and *unlearned* still more that I thought I knew, yet the country is so extensive, and settled by people of so many different countries, and so entirely dissimilar in character, that I find I have much yet to learn, before I become fully acquainted with the country or its people. When I last wrote, I had scarcely seen a German in Canada. Since that time I have traveled north of the pretty village of Woodstock, and west of "Stratford-on-the-Avon," where for miles in every direction, almost every settler is a German. But wherever I go, I see the same signs of prosperity. Abundant crops reward the even tolerably industrious farmer, and these crops bring so unusually high a price, that a smile of satisfaction is to be seen on every countenance. These now comparatively wealthy farmers relate their early toils and privations with the greatest satisfaction. For years they struggled in the forest, deprived of all the luxuries, and many of the necessities of life. Their only means of raising a few dollars to pay taxes or interest on their land, was to leave their farms and go into the States, or the more cleared parts of Canada, and work during harvest, leaving their wives and children to take care of their own small crops. Having thus valiantly endured the hardships of frontier life, and conjured prosperity and independence, they have a right to rejoice over their well-filled barns and purses. May these old pioneers long live to enjoy the fruits of their labors, and may their souls enlarge with their means, until they find themselves surrounded with all the refinements and luxuries of life, and hearts to enjoy them. In too many cases, those who are by necessity deprived of the comforts of life in their earlier days, endure the same privations in after life from choice. In the one case, it may be a great virtue; in the other, it is meanness. Competence enables its possessor to enjoy innumerable blessings—education for his children, a comfortable home filled with articles of beauty and good taste, a good library, and tasteful garden, and time for reading and mental improvement are not the least of these blessings. We have seen too many *rich poor men* among the "well-to-do" farmers of Canada who are *wasting*, because they are *hoarding* instead of *using* their wealth.

Since my last I have heard more complaint of the *wheat-midge* and the *Hessian fly*. Some farmers I have conversed with have sustained serious losses. One gentleman, living in Dumfries, informed me that for several years his wheat crop had averaged forty bushels to the acre, but this year it did not reach fifteen, from these causes.

The *hay crop* in Western Canada was very much injured, and many say their crops were entirely destroyed by the season of rain that proved so injurious to the wheat of the Genesee Valley during harvest. In consequence of this scarcity of hay, it is selling at more than \$20 per ton in the villages west of Hamilton, on the line of the Great Western Railway, and there is a great demand for straw-cutters. Some "Yankee" would make a good speculation by bringing a few hundred good straw-cutters to this part of Canada.

Potatoes sell higher here than in the States—about five shillings per bushel. This high price is partly occasioned by the rot, but principally from the fact that raising wheat appears to absorb almost the whole attention of farmers. We would urge our friends to plant potatoes in their orchards instead of wheat. They would be the gainers, even though half the crop should rot.

I think I spoke, in my last, of the scarcity of apples. As I travel further west this scarcity is more apparent. I have not seen an apple for sale as far west as Woodstock, but an old friend at that place informed me he had bought a few bushels lately at \$1.25 per bushel. In the town of Norwich, south of Woodstock, I am informed plenty of good fruit is raised, and a friend informs me that in the fall he has counted a hundred teams in a day, belonging to farmers of the towns north, all making their way to this fruit-growing town for their winter stock of apples. This town, I am informed, was originally settled by members of the Society of Friends from Pennsylvania, who with their usual foresight planted good orchards as soon as the land was cleared—and now are reaping the reward.

The spirit of speculation is rife here. The walls of every tavern are decorated with finely lithographed maps of unheard-of villages. Streets are laid out and named, and the lots contain from a *tenth* to a quarter of an acre, according to their nearness to the *business* of the place. Accompanying these maps, in many cases, are attractive show-bills, stating that on a certain day there will be an auction sale of the most desirable *business* property, and sites for rural residences. These sales are preceded by *ample refreshments*, furnished without cost by the owner of the property. Intoxicating liquors, we have reason to believe, compose the greater part of these "*ample refreshments*." In riding by stage from Stratford to Woodstock, I noticed a large piece of land that had apparently been cleared a year or two, but had not been fenced, and inquired why this land was not fenced and cultivated. The driver informed me that this was the village of *Shakspeare*, maps of which I had seen all over the country! About half a mile further on I came to a cluster of houses, with three taverns, (two of them, at least, miserably kept, as I had good reason to know,) and this was the center of the village. About four miles further south I came to the much-talked-of village of *Inkerman*. Here are found a log tavern, a brick tavern partly finished, and a blacksmith shop. There must be an end to this kind of speculation.

In what is called the *plains* here, or oak openings, there is a great scarcity of timber for rails, and they are purchased of farmers in the timbered districts for \$20 per thousand. Farmers here, particularly in the town of Burford, are talking seriously of trying the *Osage Orange* for hedges. Those who undertake to raise a hedge to protect their fields, must not think of doing it in a hurry. It is a work of time, and must be done well to be of any service.

We will give an article on *Hedges* in season for spring planting. J. V.

IN 1847, out of 3,313,579 acres of land in Ireland, under grain-culture, 2,200,870 acres were oats—twice as many acres as of all the other kinds of grain together. The moist climate of Ireland is far better for oats than for any other grain crop.

NOTES BY S. W.

AFTER reading LIEBIG'S "Reply to his Reviewers," in the *Country Gentleman*, I looked in vain for those editorial remarks his sophistical recriminations on his opponents so deservedly merited. It is therefore with much satisfaction that I now find in the last GENESEE FARMER, from the pen of JOSEPH HARRIS, one of the late editors of the *Country Gentleman*, the beginning of a truly able analytical criticism of LIEBIG'S last "Reply to his Reviewers," as translated by S. W. JOHNSON for the *Country Gentleman*.

How strange that an astute, brilliant writer, one who has really attained the highest elevation in chemical science, should thus descend to sophistry and special pleading, and the most unscrupulous garbling of experimental facts, in order to discredit the results of those long repeated practical experiments, which go to disprove *in extenso* the truth of his own promulgated theory? It is still more strange that the learned Baron should in this controversy be found so far inconsistent with himself and his theories, as to accuse Mr. LAWES of being unable to show "by any fact," that the unammoniated soil could receive a natural supply of ammonia, sufficient for the growth of seventeen bushels of wheat to the acre, when he himself persistently contends that the atmosphere, dew and rains, will supply all the nitrogen required by plants, if the soil contains a supply of the inorganic or mineral elements, to form the ashes of the plants to be grown on it.

Mr. LAWES has proved by more than seven years consecutive experiments, that when the soil was well supplied with the mineral elements of plants, and even with Liebig's patent manure, no more than seventeen bushels of wheat could be grown on an acre. Whereas by the addition of ammonia salts alone, the yield per acre has been doubled. But I must refer the reader to Mr. HARRIS' review of this controversy, and for the analysis of LIEBIG'S arguments, as contained in the GENESEE FARMER of September, October, 1855, and January current. I congratulate the farmers of Western New York, that Mr. H. is now the Agricultural Editor of the GENESEE FARMER at Rochester. While an editor of the *Rural New-Yorker* and the *Country Gentleman*, he did more to expose the empiricism of mere theorists, and the commercial frauds in special manures, superphosphates, guano, &c., than any other agricultural writer of the day. He has the advantage of being a practical farmer's son, but what is better, he has a large vocation for his calling, and has profited much by several years' practice on the experimental farm of Mr. LAWES at Rothamstead, where he had the benefit of the learned Dr. GILBERT'S scientific instruction.

I like the review in the last FARMER of the "management of the premium farms of New York." There is so much farming, even in the Empire State, altogether below criticism, that it is refreshing to have much to commend, with the little that is exceptionable, in the details of manuring and tillage of a premium farm. Seneca county has been fortunate in State premium farms, but I trust that this circumstance will not weigh with the intelligent State Society Committee unfavorably to giving the premium to the farm of Mr. Gove at Ovid, if it deserves it. It is truly a pattern farm; a matchless soil treated and cultivated and improved in a masterly manner.

JAS. STEVENSON, a farmer here, has this fall laid a

mile, (320 rods,) of three-inch, horse-shoe tile drain, including a four inch tile main drain, in a five acre meadow, at a cost of 25 cents a rod, his own labor plowing out the beginning of the drains not included. The cost of the tile was \$10 the 1000 pieces, 14 inches long each. At 12½ cents a rod, the digger made two dollars a day; he dug the drain 2½ feet deep on the average, and laid the tile on the hard clay bottom. Mr. S. had two inch pipe laid for his cellar drain; this fall he had water in the cellar, and on opening the drain he found from two to four frogs in every piece of pipe. These reptiles had evidently got into good winter quarters.

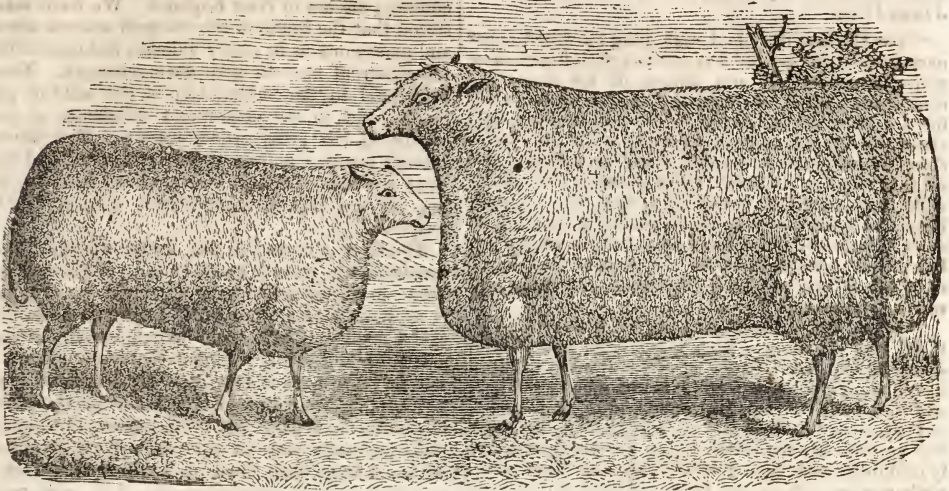
Fermented manure for root crops has been often recommended. I should as soon recommend Mexican guano in preference to Peruvian. To get the largest yield and the largest beets, trench in long unfermented manure late in the fall, or as early in the spring as the soil is dry, and the growing crop will have the full benefit of all that ammonia and carbonic acid which the fermented manure has generally lost. In our hot season this fermentation in the trench is *pari passu* with the growth and requirements of the plant; at least it is so in heavy soils. S. W.—*Waterloo, Jan. 11th, 1856.*

COLORING BUTTER WITH CARROTS.—The use of coloring matter, as annatto in cheese, to give it a rich yellow shade which is never natural, is extensively practiced, and meets with general approval; but when a similar process is proposed for butter, great objections are raised against it. Samples improperly or too highly colored probably originated this prejudice. If, without any injury to the quality, we can give winter butter the rich yellow hue of the best June or autumn, the sense of sight will be gratified, and, through the imagination, also the palate, for it requires a practiced taste to distinguish between them. But we think the flavor as well as the appearance is improved by the process. No one will object to a half bushel of carrots a day fed to each cow, and the desired result will thus be obtained; but as the supply is usually too limited, we must forego this free use, and economize the coloring principle. A single large long orange carrot may be grated into a quart of milk, and this, strained through a thick cloth, may be placed in the churn with cream sufficient for ten pounds of butter. The good part of the color of the carrot will go into the butter, imparting a rich yellow hue, while the bad part goes into the buttermilk, making it reddish brown. A good grater is made for this purpose by punching holes in a sheet of tin, and nailing its edges to a board, the middle being curved upwards. This grater is also very convenient for preparing horseradish. Two or more carrots can be used if one does not color the butter high enough, but caution is necessary not to use too many. Those who have employed carrots in this way will continue them, and to those who have not, we say, give them a trial.—*Homestead.*

WHEAT IN CALIFORNIA.—F. G. APPLETON, of San José, Santa Clara county, California, writes to the Patent Office as follows:

"In February, 1852, I sowed ten acres with Chilian bald wheat, and had an average yield of 60 bushels per acre, 60 pounds to the bushel. In January to last of March, 1853, I also sowed eighty acres, and had an average yield of 47 bushels. In January to the middle of March, 1854, I again sowed one hundred and fifty acres, and had an average yield of 42 bushels."

This beats even the "Genesee country."



CHEVIOT RAM AND EWE.

THE SHEEP OF GREAT BRITAIN.

CHAPTER II.

THE CHEVIOT BREED, OR LONG SHEEP.

THE Cheviots, as their name implies, had their origin in the Cheviot hills in Northumberland. They occupy almost all the pastoral hills of the south of Scotland, especially from the center of the country to the eastward. They are localized in some of the best parts of the Grampian mountains, and are to be found as far north as the hills of Caithness and Sutherland. "They may therefore," says STEPHENS, "be regarded as a hardy race," though not equal in this respect to the Black-faced breed.

In the white face and want of horns, the Cheviots resemble the Leicester. The wool, which extends over the whole body, is short, thick set, and of fine quality, fit for the manufacture of inferior broadcloths. The body is long, hence they are sometimes called the *long* sheep, in contradistinction to the *short* sheep or Black-faced breed. They are full behind the shoulder, a long, straight back, round in the rib, and well proportioned in the quarter; the legs are clean and small-boned, and the pelt thin; face longer than that of the Leicester, muzzle not so fine, ears larger and not set so high and handsomely upon the top of the head, and there is a rugosity of the skin across the bridge of the nose. The eye lively and prominent, the countenance open and pleasing. In disposition, suspicious with an inclination to rove, rendering them somewhat unkindly to feed, at least at an early age, and as compared with the Leicester.

Nevertheless, "all authorities concur," says MORELL, "in stating that the Cheviot breed possesses considerable fattening properties, and can endure much hardship, both from starvation and cold." It is fit for the butcher when three years old, and at two years old when crossed with the Leicester. The wethers average from 12 to 13 lbs. per quarter, but some have been exhibited at the Highland cattle shows, weighing 30 and 32 lbs. per quarter.

Sir JOHN SINCLAIR's description of the original Cheviot as it was in 1792, will be read with interest.

"Perhaps there is no part of the whole island where at first sight a fine woolled breed of sheep is less to be expected than among the Cheviot hills. Many parts of the sheep-walks consist of nothing but peat bogs and deep morasses. During winter the hills are covered with snow for two, three, and sometimes four months, and they have an ample proportion of bad weather during other seasons of the year, and yet a sheep is to be found that will thrive even in the wildest part of it. Their shape is excellent, and their fore quarter, in particular, is distinguished by such justness of proportion, as to be equal in weight to the hind one. Their limbs are of a length to fit them for traveling, and enable them to pass over bogs and snows, through which a shorter-legged animal could not penetrate. They have a closer fleece than the Tweeddale and Leicester breeds, which keeps them warmer in cold weather, and prevents either rain or snow from incommoding them. Their fleece is shorter, and consequently more portable over mountainous pastures. They are excellent snow travelers, and are accustomed to procure their food by scraping the snow off the ground with their feet, even when the top is hardened by frost. They have never any other food, except when it is proposed to fatten them, than the grass and natural hay produced on their own hills. Their weight when fat, is from 17 lbs. to 20 lbs. per quarter; and when fed on heath and kept to a proper age, their meat is fully equal in flavor to any that the highlands can produce."

Since then, the Cheviot has been extensively crossed with the Leicester, with a decided improvement, so far as early maturity and fattening are concerned, but with a corresponding reduction of hardness of constitution and fineness of wool. It is said, however, that the cross between the Leicester and Cheviot is a "better endurer of cold, though less patient of hunger," than the cross between the Leicester and Black Faced sheep.

The Cheviot has been crossed with the South Down, but it is said with indifferent success, as the produce could not endure the rigors of mountain pasturage in winter.

Some idea of the terrible storms to which the Black-Faced and Cheviot sheep are exposed, may be obtained from the following extracts from the "Sheep

herd's Calendar," by the celebrated Ettrick Shepherd, JAMES HOGG:

"For thirteen days and nights the snowdrift never once abated; the ground was covered with frozen snow when it commenced, and during all the time of its continuance, the sheep never broke fast. The cold was intense to a degree never before remembered, and about the fifth and sixth days of the storm, the young sheep began to fall into a sleepy and torpid state, and all that were so affected in the evening, died in the night. About the ninth and tenth days, the shepherds began to build up huge semicircular walls of their dead, in order to afford some shelter to the remainder; but shelter availed little, for the want of food began to be felt so severely, that they were frequently seen tearing one another's wool.

"When the storm abated on the fourteenth day, there was on many a high lying farm, not a living sheep to be seen. Large misshapen walls of dead, surrounding a small prostrate flock, likewise all dead and frozen stiff in their layers, were all that remained to the forlorn shepherd and his master. In the extensive pastoral district of Eskdale-muir, which previously contained more than 20,000 sheep, only forty young wethers were left on one farm, and five old ewes on another."

Another writer says:

"The sheep seem possessed of an instinctive foresight of the approach of these storms, and will hurry to a place for protection, when the shepherd himself sees not a cloud, and 'dreams not of the wind.' 'I had left,' says one of these mountain shepherds, 'my sheep under their accustomed shelter, and where I had never failed to find them safe and comfortable in the morning, and I was plodding my weary way homeward; but before distance and darkness closed them from my sight for the night, I looked back to see if they had given over work, (digging for their food from under the snow,) when I was surprised to see them on their march down hill towards a plantation which would afford securer shelter, and to which I had been accustomed to drive them when I feared the coming tempest. They had fallen into rows, pacing one after another until they reached the plantation, and there was nothing to suggest to my mind the return of a drift, but their movement and their bleating. They passed through the plantation, and took that side of it which would afford them a safe shelter from the south-west hurricanes. It, however, happened that, although their instinct had admonished them that a tempest was impending, it had not taught them from what quarter that tempest would come, and it soon began to blow from the north-east, from which they had no defence. When I came to them in the morning, the wreath was higher than the dyke, and was leaning over upon the trees. Some of the strongest sheep had kept treading down the snow as it gathered around them, and were on the top of the wreath; but many of them further back were quite immersed in the snow. However, by means of probing and digging, I got them all out, except two that had been crushed by the weight of the snow."

We believe there have been some Cheviot sheep imported into Canada. We should be glad to hear how they have succeeded. There can be little doubt that they would prove a valuable acquisition on many a hilly farm in the north-eastern portions of this country and the British Provinces.

Our engraving represents a Cheviot ram and ewe, the property of Mr. JAMES BRYDON, of Moodlaw, Langholm, Scotland, which obtained prizes at the Highland Societies Meeting, at Edinburgh.

BONE DISEASE IN CATTLE.—This is a somewhat common disease in New England. We have seen it stated that the bones of the diseased animals are soft and gelatinous, as in young animals, lacking sufficient phosphate of lime to give them strength. This is attributed to the "exhaustion of the soil" of phosphates, and to the consequent deficiency of phosphates in the grass grown upon it. The diseased animals manifest a craving after old bones, and bone-meal is recommended as a remedy, and is sold in Boston, we are told, in considerable quantity for this purpose.

The facts in regard to this disease warrant no such conclusions in regard to its cause. If the soil is deficient in phosphate of lime—it cannot be exhausted, or no plant would grow on it—there is no evidence that phosphate of lime will be deficient in the plants grown upon it, while we know that an application of soluble phosphate of lime does not increase the proportion of phosphates in the turnip plant, although it greatly increases the crop. A small, immature plant generally contains more ash—more phosphates—than a large, fully developed plant; and, while we cannot state that such is the case, it is more reasonable to suppose that a poor soil would produce the former rather than the latter.

"But," says an objector, "bone-meal effects a cure, and is not this evidence that the animals need phosphates?" Let us see. The *Boston Cultivator* says:

At a late discussion among the members of the Hillsborough (N. H.) Agricultural Society, Mr. BURNS, of Milford, stated that he considered ground oyster shells the best remedy for the bone disease in cattle. He gave a handful to a cow two or three times a week."

Here is evidence that a cure can be effected without the aid of phosphates, for the oyster shells are composed of carbonate, not phosphate of lime, as in the case of bones.

DOMESTICATING THE BUFFALO.—A correspondent of the *Country Gentleman*, who hails from Estun, Indian Territory, west of Arkansas, says:

"The Creek Indians sometimes drive out cows to the Buffalo range, and there kill their calves and supply their places with young buffalo. These on their return grow up apparently as tame as the other young cattle of the drove with which they range. Though the males when full grown, are sometimes vicious and dangerous, pursuing those who chance to offend them.

"I can not learn that any full-blood buffalo have ever been raised from this half-tamed stock. But there have been numerous instances of a cross between the buffalo bull and common cows.

"Various attempts have been made to break and work these 'black-horned cattle,' as the Indians call the buffalo, but with very indifferent success. For although of strength inferior only to Barnum's team of elephants, they are so intractable and unruly as to be 'more plague than profit.'

"Two years since a drove of some twenty 'three year old' buffalo were driven east from the vicinity of Fort Gibson. It was said their destination was one of the large stock farms of Kentucky, where an effort was to be made to raise them. Of their further history I am uninformed, but I hope the effort may prove successful. For the white man and his iron horse are fast invading the last retreat of the buffalo and his hunter, and unless they give up their roving habits and wild life, and become cultivators of the soil, both will soon remain only in the history of the past."

GOOD COWS.—Mr. E. M. SHEPARD, of Norfolk, St. Lawrence county, N. Y., furnishes the *Country Gentleman* the following statement of the products of his dairy the past year:

"We have kept an account of butter made this season—have milked five cows—two came in June 1st, two July 1st, and one September 10th, but milked her during the summer up to coming in. From those cows we have made, up to Nov. 15th, and it would, perhaps, be no more than right to say five cows from June 15, to November 15—152 days:

Butter, 795 lbs., at 21 cent's per lb.	\$166 95
Cheese, 135 lbs., at 10 cents.	13 50
Calves, raised 6, sold 3 at \$15, and 3 on hand	90 00
Allowing 100 lbs. of pork to 1 cow would be 500, at \$10 per cwt.	50 00
And then say 2 quarts of milk per day for family use	6 08
	\$326 53

Or \$65.30 per cow, without counting any milk sold or butter made in winter."

It is not stated, but we believe the cows are of the Ayrshire breed.

NATHANIEL BAKER tells the *Granite Farmer* that he has a "native" cow which in seven and a half months gave 2559 quarts of milk; that "each seven quarts of milk makes seventeen ounces of butter, which is equal to 388 pounds, worth 25 cents per pound—equal to \$97."

POINTS OF A GOOD MILCH COW.—The *London Farmer's Magazine* gives the following characteristics of a good milch cow:

"The head should be small, but rather long and narrow at the muzzle; the eye small, but quick and lively; the horns small, clear, bended, and their roots at considerable distance from each other; neck long and slender, and tapering towards the head, with little loose skin hanging below; shoulders thin; hind-quarters large and capacious; back straight, broad behind, and joints of the chine rather loose and open; carcass deep, and the pelvis capacious, and well over the hips, with fleshy buttocks; tail long and small; legs small and short, with firm joints; udder capacious, broad, and square, stretching forward, and neither fleshy, low hung nor loose; the milk veins large and prominent; teats short, pointing outwards, and at considerable distance from each other; skin thin and loose; hair soft and woolly; the head, bones, horns, and all parts of least value, small, and the general figure compact and well proportioned."

MILCH COWS IN WINTER.—The *American Farmer* has an article on this subject, from which we extract the following sentences:

"It is essential to the secretion of milk, that milch cows should be comfortably housed through the winter months; their apartments should be well ventilated, moderately warm; their stalls should be well bedded and kept clean. Their food should be succulent and nutritious; besides long provender, they should receive messes of slop, composed of chopped roots of some kind, cut straw, meal of some kind or bran mixed with cut straw, fodder or hay of some kind. The idea of expecting a milch cow to give any considerable portion of milk in winter when fed upon straw alone, and that scantily doled out to her, is, to say the least, a fanciful conceit—one that will never be realized. Milch cows should be salted twice or thrice a week, and have access to a good, warm, well-protected yard, in good mild weather."

ANIMALS SHOULD BE KEPT WARM.—We have been contending for years that, within certain limits, warmth is equivalent to food. Farmers cannot be reminded of this too often. They require line upon line upon this subject. Prof NASH says:

"An animal eats; the carbon of his food enters the blood, and with it passes through the lungs. He breathes; the oxygen of the air enters the lungs, combines with the carbon of the food, and forms carbonic acid gas by a process similar to combustion. This combination creates animal heat, which warms the blood, and courses with it through the whole body, to keep all the parts warm. In a very cold stall the carbon of the food is all consumed for fuel; in one that is comfortable, a part of it is left to promote animal growth. In the latter case the growth pays for the food; in the former there is no pay."

CARROTS AND OATS.—This winter we have tried this feed on our horse, and are fully convinced that it is the cheapest and best feed we ever used. We give her about half a peck of carrots with two quarts of oats in the morning, and she has done quite as well as when we gave her six quarts of oats per day.—*Oxford, Conn.*

Very likely; but she probably eat more hay. Carrots are a cheap and nutritious food for horses—every farmer should raise enough to give his horses a peck a day in the winter, and especially in the early part of the spring—but it is foolish to contend that a bushel of carrots is equal to a bushel of oats. Such exaggerated statements are calculated to retard rather than enhance the general cultivation of carrots.

APPLES FOR COWS.—A correspondent of the *New England Farmer* says:

"I live in a country where in times past apples fed to cows were said to dry up their milk. I think that may have been the case when fed in large quantities. I have been feeding a cow some four or five quarts a day, regularly, and never had one give so much or so rich milk before. As apples will not generally keep through the winter in cellars, they may be spread out on the barn floor, and frozen, then piled up and covered with hay or straw, where they will keep, and may be used as wanted by pouring water upon them."

MANGE IN CATTLE.—The *Boston Cultivator* says: "The disorder termed the mange arises from the excitement of the skin, probably brought on by disarrangement of the organs of digestion in consequence of poverty engendered by hunger and want of shelter. After these are supplied, a wash made of gunpowder and water—charcoal, nitre, and sulphur—will be found a valuable application. Mange is an infectious disorder; remove therefore the sick beast from the rest of the herd."

SUFFOLK HOGS IN OHIO.—A gentleman from Ohio, who has kept, and we believe still keeps, Suffolk hogs, expressed, in a recent conversation with us, his conviction that they are too small and too tender for Northern Ohio. A larger, coarser, and hardier breed, he thinks, is more profitable. The Suffolks are favorites with us, and we were sorry to hear it honestly affirmed, by one whose opinion is entitled to consideration, that the introduction of this breed had been, and would be, a serious injury to the farmers of Ohio. Is it so?

ON FEEDING CATTLE.

MESSRS. EDITORS:—All farmers know the advantage gained by the proper management and housing of cattle. They know, too, the benefit derived from cutting their food, such as straw or stalks. Coarse timothy hay, cut and mixed with straw, will cause the cattle to eat their mess with a hearty relish. A good way for preparing the mess is to place the cut stalks in a tub or tight box, and pour boiling water upon them; then sprinkle a little salt over them, and put a little bran or meal on top to keep in the steam. Feed, when cold, in quantities not less than a bushel at a meal. The stalks should be cut in pieces an inch or an inch and a half in length. If longer than that, cattle are apt to leave them.

Cattle, young stock especially, are injured by cold wind and storms, and should be protected by warm sheds, if nothing more. Another object of importance is to have water in the barn-yard or in its immediate vicinity. How often we see cattle turned to water in the morning, and after going forty or fifty rods, drink their fill of cold water and stand shivering for hours in the cold. These chills are an injury to cattle, and should if possible be avoided.

Although for want of convenience it is not practicable for every farmer to feed and care for his stock as he would wish, yet there are many who might, by a proper course of feeding, prevent their cattle from coming out spring-poor. W. N. C., *Flushing, Mich.*

CORN AND COB MEAL FOR FOWLS.—The *Maine Farmer* says:

"We find it good economy to grind the corn and cobs together fine for poultry. They will eat it just as well and as readily as if the cobs were not there. In this way you turn your cobs into eggs and chickens. We have this winter fed such meal out to hens, geese, and ducks. We put it into a shoal trough, made by tacking together boards four inches wide, like a V, and gave it to them dry. It all disappears before them, and does them good. Hens and other poultry, you know, like to have some grass to eat, and they do better if fed during the winter with some substitute for grass, than if fed upon nothing but dry grain. The corn cob is somewhat like grass in its chemical ingredients. To these, cabbage, ruta bagas, and apples, cut fine, may be added, all of which they will eat readily and thrive upon, if they have enough, even in mid-winter."

Cob meal a substitute for grass! Rather a novel idea that. If "enough" "cabbage, ruta bagas, and apples" are given, is there any necessity for any other substitute for grass? It is generally considered unnecessary to grind grain for fowls, and we are satisfied that there is not nourishment sufficient in the cobs to pay for the grinding of the cob and corn. That is to say, the 7½ lbs. of cob in a bushel of ears of corn is not worth three cents—the price usually charged for grinding a bushel of ears of corn. At this rate, it costs \$8 per ton to grind cobs, and few, we think, will contend that they are worth any such a price. Where it is necessary to grind the corn, however, the cost of grinding the cobs can not be estimated at more than \$4 per ton, at which price, when hay is worth \$15 or \$20 per ton, cobs may be worth grinding. We make these remarks principally for the purpose of calling out the experience of our correspondents.

WINTER SHELTER FOR FARM ANIMALS.

The *Valley Farmer*, an excellent agricultural paper published at St. Louis, says:

"The advantages of protecting farm stock from the rain, sleet, and chilling blasts of winter, in stables and sheds, are not so well understood and so highly appreciated in the West, as among the more prosperous class of Eastern farmers.

"The custom of suffering cattle to run at large in all kinds of weather during winter, without some place where they can find shelter, to say the least of it, shows a great want of economy. Cattle well protected from the cold and storms of winter, will enter upon the grass in spring, in good condition, while those exposed, if brought out alive, will appear mere skeletons, and will lose half the summer in regaining the flesh they have lost during winter.

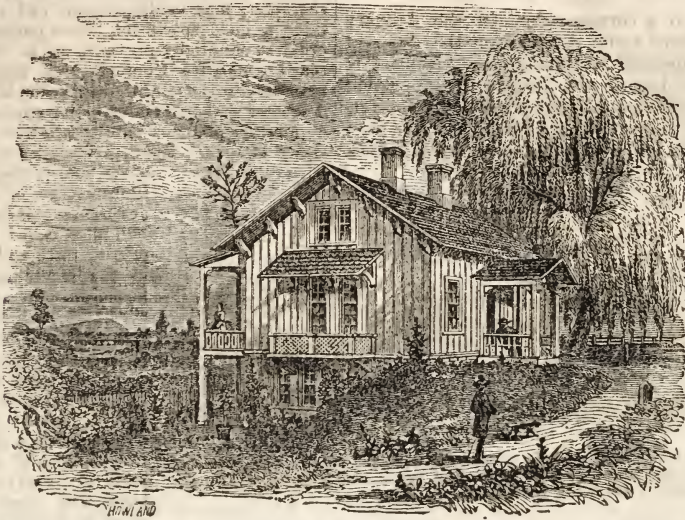
"A large, expensive Pennsylvania barn is not required in our western climate for the protection of stock, but very simple and cheap sheds may be erected, with materials within the reach of every farmer, which will answer all the necessary purposes. This may be done by setting two rows of posts six feet high, with forked tops, and ten or twelve feet apart. In the forks lay poles on the line of the posts; across these, other poles or old rails may be laid, forming a roof, upon which a quantity of straw may be piled sufficiently high to turn off the rain. Around the north, or exposed sides, old rails or slabs from the sawmill may be placed on end; thus securing cheap and comfortable protection to stock during the severe storms of rain, snow and winds of the winter season. These sheds will last several years, and the saving each winter will be equal to many times the cost."

A HILL-SIDE COTTAGE.

We are indebted to that excellent work, *Village and Farm Cottages*, by CLEVELAND & BACKUS BROTHERS, for the accompanying beautiful design for a hill-side cottage.

It is intended for a situation below the road on which it fronts. Gentle swells by some valley side, or on the outer margin of a plain, often furnish sites well adapted to this plan. As to basements, the author says:

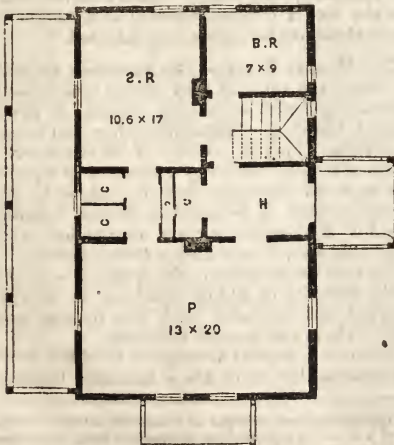
"Basements, as they are usually made, more or less beneath the surface of the ground, are our aversion. Too often they are damp, almost always ill-ventilated. If city houses must have them, they should rank, and generally do rank in the class of necessary evils. The man's sanity might almost be doubted who should put a basement to his house in the country. But it often happens that the form of surface and nature of the ground, are such as to allow the two sides or ends of a house to be of different depths, thus admitting entrance from without, on two floors. In some families, such a division of the house divides also its duties and labors to great advantage. To give such a story its highest value and avoid the needless use of stairs, it should contain all the rooms and appliances needed for the labor of the household. The apartments should be entirely above ground, well lighted and ventilated. The ground outside should be lower than the floor, and should descend from the house, not only for drainage, but to prevent the settling within of the denser gases and vapors. The floor should be elevated somewhat above the ground, and the side walls should be "furred off" with wooden strips to which the laths are to be nailed, thus forming an air chamber between the outside stone and the inside plastering. The cellar, back of the rooms, should be separated from them by an air-



A HILL-SIDE COTTAGE.

tight partition, and well ventilated, to prevent the intrusion into the house of its damp or impure air. A due regard to health demands the use of every precaution to secure dryness, to retain warmth, and to exclude those insidious vapors, charged with disease and death, which are wont to gather in dark and low places.

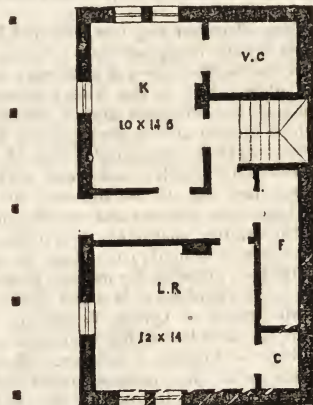
"Such a story should be a real story, not a low, mean, back place, but a respectable portion of the house. Let the door be screened if necessary, and let the whole be made pleasing by the judicious disposition of flower and vine, and shrub and tree. Houses thus built cannot easily be regular in form and arrangement. Nor is it desirable that they should be. In placing such a structure, the surface, rather than boundary of the ground, should be consulted. The house must be fitted to the declivity, even though it do not conform exactly to the street."



PLAN OF PRINCIPAL FLOOR.

INTERNAL ARRANGEMENT.—"The windows opening on the veranda and on the small balcony at the end, are long and are hung on hinges. The basement has a

fuel cellar, *r*, a vegetable cellar, *v*, *c*, a closet, *c*, and the important rooms *L*, *R*, and *K*. In the attic plan there are four bedrooms and as many closets. These rooms are ten feet high in the highest part, and but two feet and nine inches at the side; a result which is due to the lower pitched roof. The stairs are of a compact form and occupy but little space. The position of the upper flight determines that of the lower, and makes necessary the recess in the stone wall as shown by the basement plan."



BASEMENT PLAN.

"The position, on the whole, most eligible for this house is one in which its shaded side should face the west, and its parlor windows look out upon the south. The road might wind round its southern end, with a sufficient space between for shrubbery and lawn, while the garden might stretch down toward the vale."

"Height of basement, 7 feet. Main story, 8 feet 6 inches. Cost, \$1,375."

If any of our readers should wish to build after this design, they can obtain further information, and working designs, by addressing CLEVELAND & BACKUS BROTHERS, Architects, 41 Wall street, New York.

ARCHITECTURE—STYLES AND CHANGES.

IN answer to a correspondent in the January number, we gave some remarks on the different styles of architectural ornaments, and promised to continue the subject of architecture in the present number. In fulfilling our promise we can not perhaps do better than to quote another chapter from *Repton's Landscape Gardening and Architecture*.



Fig. 1. Imaginary composition, showing, in the background, the castellated Gothic style of architecture; next, the ecclesiastic Gothic; then, the mixed Gothic; next, the Grecian, or classical style; and, lastly, Indian architecture.

In this country we have very few purely Gothic, or even Grecian buildings. A glance at the above engraving will show that they are scarcely suited to human habitations, much less for private residences. Still, all buildings of architectural pretensions partake somewhat of the character of one or the other, and it is well that the leading features of each should be understood.

“THE GOTHIC STYLE.—The *Castle Character* requires massive walls, with very small windows, if any are allowed to appear externally. The correct imitation of this, in modern times, must produce the effect of a prison.

“The *Abbey Character* requires lofty and large apertures, almost equally inapplicable to a house, although, in some few rooms, the excess of light may be subdued by colored glass. But in the Abbey Character it is only the chapel, the collegiate church, the hall, and the library, which furnish models for a palace; all the subordinate parts were the mean habitation of monks, or students, built on so small a scale, and with such low ceilings, that they can not be imitated in a modern palace, without such mixture and modification as tend to destroy the original character; therefore it is necessary now (as it was formerly) to adopt the *mixed style* of Queen Elizabeth's Gothic, for modern palaces, if they must be in any style of what is called *Gothic*.

“Until the reign of Queen ELIZABETH, the large buildings in England had either been castles for security, or colleges and religious retreats. Many of these had been converted into palaces, or altered to adapt them to royal residences, by such changes in their original forms, as, at length, introduced that mixed character called *Queen Elizabeth's*, or *House Gothic*.

“Yet, a mixed style is generally imperfect: the mind is not easily reconciled to the combination of forms which it has been used to consider distinct, and at variance with each other: it feels an incongruity of character, like an anachronism in the confusion of dates: it is like uniting, in one object, infancy with old age, life with death, or things present with things past.

“THE GRECIAN STYLE.—Under this character are included all buildings in England, for which models have been furnished from Greece, from Italy, from Syria, and from other countries, unmixed with the Gothic style; for in all these countries some intermix-

ture of style and dates, in what is called the Grecian character, may be discovered: and we are apt to consider, as good specimens, those buildings in which the greatest simplicity prevails, or, in other words those that are most free from mixture. Simplicity is not less necessary in the Gothic than in the Grecian style; yet it creates great difficulty in its application to both, if no mixture of dates is to be allowed in the respective styles of each. Thus, the English antiquary will discover, and perhaps be offended at, the mixture of Saxon, Norman, and the several dates of subsequent buildings called Gothic; but the man of taste will discover beauty in the combination of different forms in one great pile, or he must turn with disgust from every cathedral and abbey in the kingdom. In like manner, the traveler and connoisseur in Grecian antiquities, will not only object to more than one of the five orders in the same buildings, but will detect the intermixture of even the minutest parts in detail; while the man of taste will discover beauty and grace in combination of forms, for

which there is not authority in the early, and, therefore, most simple edifices of those countries. It is by such combinations only, that the Grecian style can be made applicable to the purposes of modern habitation. “The best models of pure and simple Grecian architecture, were temples, many without a roof, and all without windows or chimneys. Such models might be imitated in our churches, or public edifices; but houses built from such models would become inconvenient, in proportion as this external simplicity is preserved. For this reason, INIGO JONES, and our early architects in the Grecian style, took their models from buildings of later date (chiefly Roman), where the different floors are marked by different orders placed one over another.

“As the taste for Grecian architecture became more correct, and, by the works of STUART and others, the more simple original models became better known in England, various attempts have been made to adopt it in modern houses; but a palace, or even a moderate sized residence, can not be entirely surrounded by a peristyle, like a Grecian temple; and, therefore, the portico alone has been generally adopted.*

“THE MODERN STYLE.—The numerous difficulties in reconciling the internal convenience of a house to the external application of Grecian columns of any order, at length banished columns altogether, and introduced a new style, which is, strictly, of no character. This consists of a plain building, with rows of square windows at equal distances; and if to these be added a Grecian cornice, it is called a *Grecian building*: if, instead of the cornice, certain notches are cut in the top of the wall, it is called a *Gothic building*. Thus has the rage for simplicity, the dread of mixing dates, and the difficulty of adding ornament to utility, alike corrupted and exploded both the Grecian and the Gothic style in our modern buildings.

“Without a bigoted attachment to either, every one must confess that there are a thousand beauties and

*“The difficulty of adapting any order of columns to the windows of a house, is evident from the portico being sometimes confined to the ground floor only, sometimes extended two, or even three floors, and sometimes raised on a basement of arches, unknown to the Grecian character. A more classic expedient has been devised by the ingenious author of the *Antiquities of Greece Magna*, in his designs for Harford and Downham colleges; but such lofty portion of windows, though allowable in a public building, would be inapplicable to the purposes of a private house.

graces in *each*, which deserve our admiration, although they can not, without violence, be made subservient to modern residences.

"In this inquiry, no mention has yet been made of the difference of climate, and the influence it may be supposed to have on the different styles, because grace and beauty of form, in ornament and decorations, may be considered, without always annexing ideas of utility; if they can be blended, it is the perfection of art in every province; and, in the choice and adaptation of new forms to new uses, consists the genius of the artist.

"But there is another consideration of greater importance, which relates to the *material* of which the building is constructed.

"The *eye* will not be pleased with *that* to which the *mind* can not be reconciled; we must be satisfied that the construction is safe, and that the material is equal to its office. The resistance of iron is greater than that of stone; but if iron columns be made to represent stone, they will appear too light and weak. On the contrary, if stone columns be made to resemble metal, they will appear too heavy and massive. And if either of those materials be made to imitate wood, not only the relative strength of each must be considered, but also the *Principles of Construction*, which are totally different in the Grecian and Gothic styles.*

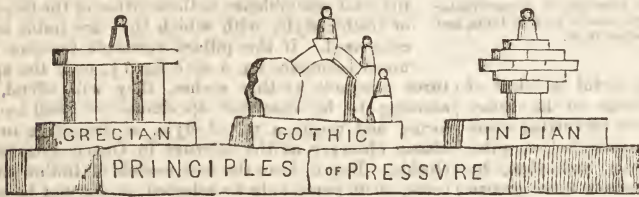


Fig. 2. Sketch exhibiting the principles of pressure in Grecian, Gothic, and Indian architecture.

"OF GRECIAN CONSTRUCTION.—According to the law of gravitation, all matter at rest keeps its place by its own weight, and is only to be removed by superior force acting in a different direction. A perpendicular rock, or a solid upright wall, will preserve the same position so long as its substance endures. On this principle of perpendicular pressure all Grecian architecture is founded. Hence have arisen the relative proportions and intercolumniations in the different orders, from the heaviest Doric to the most graceful Corinthian, the distances being regulated by the strength of the parts supporting and supported.

"Although it is probable that the first buildings were of wood, and that rude trees suggested the proportions of the Doric order, yet, the origin of Grecian architecture was, doubtless, derived from one stone laid flat upon another, and the aperture, or void, between two upright stones, was covered by a third placed across them: thus the width of the opening was limited by the length of the cross stone; consequently, this mode of structure required large blocks of stone, when that material was used [see fig. 3].

"The difficulty of procuring such large blocks as were required for this mode of construction, suggested the idea of producing wide apertures by a different expedient; and this introduced the arch.

* This remark is every day confirmed by the too slender groins of Gothic arches, to imitate stone, in plaster, or cast iron, and the too slender columns of Grecian architecture in wood, painted to imitate stone and marble.

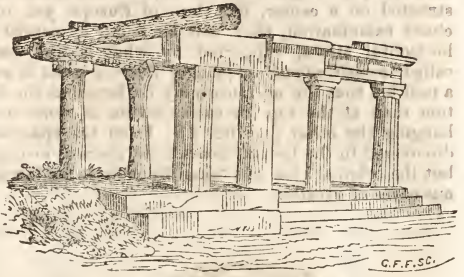


Fig. 3. Sketch exhibiting the progress of Grecian architecture, from the columns and beams formed of the trunks of trees, with the bark on, to the Doric order, with fluted shafts, &c.

"OF GOTHIC CONSTRUCTION.—In every arch, whether a segment of a circle, an ellipsis, or in the pointed arches, called Gothic, there is a great lateral pressure. This constitutes the leading principle of construction in Gothic architecture, which depends on its abutments [see fig. 2]. An arch may sometimes abut against a rock, as in bridges; or against a pier of masonry, as in castles, &c.; but, in light Gothic structures, the abutments consist of buttresses to counteract the lateral pressure; and where such buttresses are not sufficiently heavy, additional weight is used under the various forms of pinnacles, or finials, which have often been mistaken for mere ornaments, of no use in the construction; and these are sometimes placed at a distance, when they are connected by what are called flying buttresses, like those at Henry the Seventh's chapel [see fig. 4].

"OF INDIAN CONSTRUCTION.—Under the name of *Indian Architecture*, may be included Hindustan, Gentoo, Chinese, or Turkish; which latter is a mixture of the other three. But this construction is distinct from the Gothic, in having little or no lateral pressure; and from the Grecian, in having a different mode of apply-



Fig. 4. Sketch exhibiting the principle of forming abutments for Gothic arches, as generally adopted in ecclesiastical buildings.

ing the perpendicular pressure; for although, at the first sight, we might be led to suppose the arches constructed on a center, like those of Europe, yet, on a closer examination, they will be found to consist of horizontal strata, supported by what is technically called 'corbelling out,' or placing the materials in such a position that the aperture may be larger at the bottom than at the top, by each stratum of stone overhanging the other [see fig. 2]. From the specimens discovered in the Indian excavations, there is no doubt but the original idea was taken from those subterranean caves or grottoes.

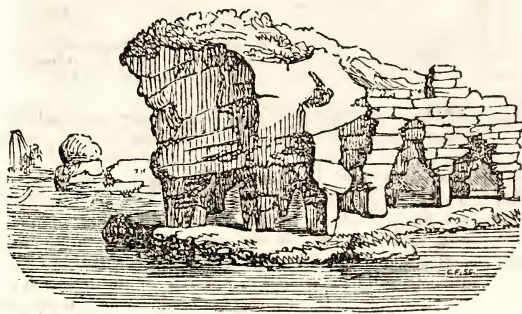


Fig. 5. Imaginary sketch, exhibiting the principle of perpendicular pressure in the artificial vaults made in the native rock in India, and also in the arches of buildings in the Indian style.

"The people who formed these awful wonders of antiquity, instead of erecting buildings on the surface of the ground, began their operations by cutting away the foundation of a rock, to obtain room below, without endangering the superstructure; and thus, by degrees, the Indian architecture seems to have grown from the rudest excavations of Troglodite savages, to the most beautiful forms discovered in the temples of Salsetta, Elora, and Elephantis.

"When these natural subterranean vaults were imitated above ground, in buildings of later date, the same construction prevailed; and, therefore, both in the arches and domes of the Indian style, we observe the same principle of perpendicular pressure [see fig. 5].

"APPLICATION OF INDIAN ARCHITECTURE.—Having already shown the difficulty of adapting either the Grecian or Gothic styles to the character of an English residence, this newly discovered style of architecture seems to present a new expedient for the purpose, in the forms made known to this country by the accurate designs of Mr. THOMAS DANIELL, and other artists, which have opened new sources of grace and beauty.

"To the materials of wood and stone we have lately added that of cast-iron, unknown in former times, either in Grecian or Gothic architecture, and which is peculiarly adapted to some light parts of the Indian style.

"In Grecian architecture, the artist is confined to five (or, rather, only to three) different orders of columns, so restricted in their relative proportions that they are seldom used externally, with good effect, in modern houses, and are generally found too bulky for internal use. Indian architecture presents an endless variety of forms and proportions of pillars, from the ponderous supports of the cavern, to the light, airy shafts which enrich their corridors, or support their verandas. This alone would justify the attempt to adapt a style, untried, for the purpose to which other styles have been found inapplicable or inadequate.

"It is difficult for an artist at once to divest himself of forms he has long studied. This will account for the confusion of Grecian and Gothic in the works of JONS OF PADUA, ISIGO JONES, and others, about the same date, which occasioned that mixture of style condemned in after-times for the reasons already assigned. The same thing may be observed in the first introduction of Gothic, mixed with the Saxon and Norman which preceded it: and the same will, doubtless, happen in many instances, during the introductory application of Indian architecture to English uses, while a false taste will both admire and condemn, without any true standard, the various forms of novelty.

"If I might humbly venture to suggest an opinion on the subject, I should recommend the use only of such Indian forms, or proportions, as bear the least resemblance to those either of the Grecian or Gothic style, with which they are liable to be compared. If the pillars resemble Grecian columns [compare fig. 6 with fig. 7], or if the apertures resemble Gothic arches, they will offend, by seeming to be incorrect specimens of well-known forms, and create a mixed style, as disgusting to the classic observer as the mixture in Queen Elizabeth's Gothic. But if, from the best models of Indian structures, such parts only be selected as can not be compared with any known style of English buildings, even those whom novelty can not delight, will have little

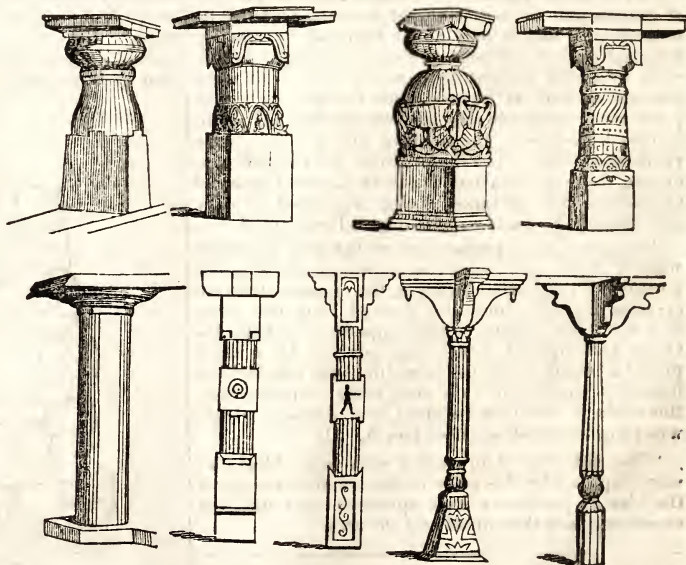


Fig. 6. From an endless variety of columns used in Hindoo architecture, the above few examples are inserted, that their relative proportions may be compared or contrasted with those of the orders to which Grecian architecture is necessarily confined.

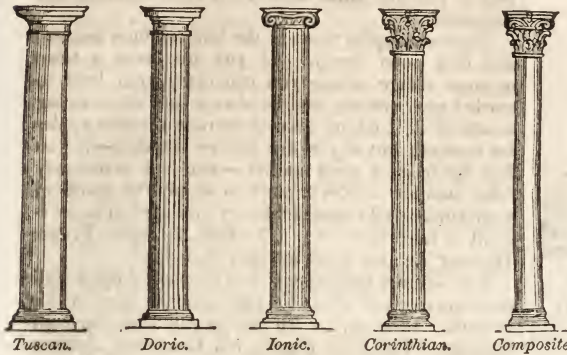


Fig. 7. Specimens of columns of the different orders of Grecian architecture, given with a view of facilitating the comparison between them and the Hindoo buildings.

cause to regret the introduction of new beauties. Without strictly copying either the mosques, or the mausoleums, or the *serais*, or the hill-forts, or the excavations of the east, the most varied and graceful forms should be selected, with such combinations, or even occasional deviations and improvement, as the general character and principles of construction will admit; for which purpose the specimens [see figs. 6 and 7] are submitted for consideration as general hints, rather than as finished designs."

FACTS WORTH REMEMBERING.

CORN MEAL should never be ground very fine. It injures the richness of it.

TIMBER cut in the spring and exposed to the weather with the bark on, decays much sooner than that cut in the fall.

If the small end of posts are placed in the ground they will last much longer than if placed with the butt ends downwards.

WOUNDS IN CATTLE are quickly cured by washing several times a day with a mixture of the yolk of eggs and spirits of turpentine.

SALT is necessary to the health of horses, cattle, and sheep, and they should be supplied with it at regular stated intervals throughout all seasons of the year.

POISONOUS GAS (carbonic acid) in wells may be temporarily removed by dashing down a few pails of cold water. Then they may be cleaned out safely.

At the head of one of the graves in "Old St. Mary's," Md., there stands a cedar slab, which, as the inscription indicates, was placed there in 1717, and is still perfectly sound.

It is said to be a first rate way to treat balky horses, by hitching a good steady horse and team behind them. They will soon forget their peculiar propensities and be glad for a chance to move the other way.

PLASTER (sulphate of lime) when in solution is decomposed by carbonate of ammonia—carbonate of lime and sulphate of ammonia, which is not volatile, being formed. In the dry state, no decomposition takes place.

The great rule in relation to animals holds perfect in its application to vegetables; breed only from the best animals; defects and imperfections have always a tendency to propagate themselves, and are always, in a greater or less degree, transmitted.

DURABILITY OF POSTS.—In a recent discussion, one member said he had used burr-oak posts 7 years, and thought they would last 6 or 7 years longer. White-oak will last, according to another member, 10 or 12 years; locust 20 years or more. Another stated that cherry rotted in 8 or 9 years; white-oak in 10 or 14 years; black-walnut in 9 or 10 years; locust 20 years. Much depends, it was affirmed, on the character of the soil; moist land causing a sooner decay than dry.

TO THAW FROZEN PUMPS.—Some throw in salt, some heat iron rods, &c., but an incomparably better way is to place a small lead pipe within the pump, and pour in hot water by means of a funnel. The pipe should be as long as the frozen portion; and conducting the boiling water right on the ice, removes it with astonishing rapidity, say one foot per minute, the pipe settling as rapidly. Where pumps are liable to freeze, it is well to have a lead pipe always at hand.

FEEDING CATTLE.—Cattle standing in cold muddy yards, exposed to the weather, consume about twice as much as those in sheltered stables kept clean and littered, and free from the accumulations of manure.

To prevent rats from burrowing into cellars, either make a good water-lime floor, or else build the wall on a close-jointed flagging, laid some inches below the bottom of the cellar, and projecting three or four inches beyond the wall. The rat burrows down next to the wall, reaches the flagging, and cannot pass through it, never in any case working back to the edge.

SYSTEMS OF ROTATION, says the *Illustrated Annual Register*, must vary according to the nature of the soil in different regions of country, the amount and kind of manure at command, the cleanness of the land, the nature of the market, and the proper distribution of labor. One of the best farmers we have known, had his farm laid out in equal fields, and adopted the following rotation:

- 1st year—Wheat after clover.
- 2d " Corn, potatoes and ruta bagas, with all the manure made that year.
- 3d " Barley.
- 4th " Wheat, seeded with clover.
- 5th " Clover pastured.

A piece of low ground was kept for meadow, and was occasionally top-dressed, and rarely broken up and re-seeded. A rougher portion of the farm was occupied with summer-fallow, wheat, clover, and grass for pasture. This farm was a strong fertile soil;—poorer land would need a longer season in grass, which would admit a larger number of live stock, and as a consequence produce a greater amount of manure.

The following may be adopted, with variations according to circumstances:

THREE COURSE SYSTEM.

- 1. Corn and roots, well manured.
- 2. Wheat.
- 3. Clover—one or more years, according to the fertility and amount of manure at hand.

FOUR COURSE SYSTEM.

- 1. Corn and roots, with all the manure.
- 2. Barley, or peas, or both.
- 3. Wheat.
- 4. Clover—one or more years.

Oats are always a severe crop, and an excellent farmer of our acquaintance who adopts the above, never permits oats to grow on good wheat land, but confines the crop to the more moist portions of his farm, adapted only to this and to meadow and pasture.



Horticultural Department.

THE ORCHARD.

THE GROUND for an orchard should be a good dry soil, well drained, and thoroughly and deeply cultivated. Every farmer who knows how to prepare his ground for a good crop of corn or wheat, will need no directions on this point. Thirty feet each way is as near as apples should be planted. In most cases, we should prefer five feet more each way. When the ground has been well prepared, planting is a simple matter. Dig a pretty large hole for each tree, and after examining the roots, and cutting off all that are bruised or damaged in any way, fill up the hole with fine good earth so as to leave the tree only an inch or so deeper in the ground than it was when growing in the nursery. The collar, or part where the trunk and roots unite, should be only slightly covered with earth. After the hole you have made is sufficiently filled with fine earth, place the tree in it, spread the roots in their natural position, fill in the earth a little at a time, and pack it in carefully between the roots. If, after the hole is nearly filled, some water is thrown in, it will aid in settling the earth firmly around the roots.

Even when a tree has been removed from the nursery with great care, a large portion of the finer roots are unavoidably destroyed in the removal; consequently there are not sufficient roots to sustain the top, and unless the branches are pruned so as to make up for the loss of roots and thus keep up a balance between the branches and the roots, the tree will languish, and perhaps die. It will therefore be of the greatest advantage to prune pretty closely after planting.

After your orchard is planted, cover the earth around the trees, two feet or more each way, with coarse manure, chip manure, or any convenient material that will keep the earth cool and moist, and prevent the growth of weeds.

These directions are so simple that many will be disposed to think their publication quite unnecessary. When it is remembered, however, that not one half of the trees taken from nurseries ever live to bear fruit because these simple rules are not heeded, their importance will be at once apparent. Within the last two months, we have seen hundreds and thousands of trees dead and dying from carelessness in planting. We have seen a whole orchard of young trees planted three feet deep; and, with a miserable attempt at economy, we have seen orchards planted in swamps, because the ground would not grow anything else.

APPLES FOR THE ORCHARD. — We have frequently, of late, been asked what kinds of apples the farmer

should plant; and many we know have made a mistake in planting kinds unsuited to their situation and circumstances.

Summer Apples ripen at the farmers' busy season; and they soon decay. If you live near a town or large village, where you can carry your fruit to market conveniently, and be always sure of obtaining a sale for it, it might be well to raise summer apples for market; but if you are not so situated—if you live far from a good market—you had better only raise summer apples enough to supply the wants of your family, and those neighbors who are too improvident to raise their own. The *Red Astracan*, *Yellow Harvest*, &c., are good summer varieties.

Fall Apples keep longer than Summer Apples, and consequently are better for the farmer to raise in this respect. Most of the fall apples will keep through October. The *Fall Pippin*, *St. Lawrence*, *Autumn Strawberry*, *Porter*, and *Hawley*, are good fall sorts.

Winter Apples, however, are the kinds that the farmer should raise for a crop—the long-keeping sorts. These should be picked carefully by hand, and before barreling should be carefully assorted. When cared for in this way, they can be kept until the state of the market or other things may make it prudent for the farmer to sell. *Baldwin*, *R. I. Greening*, *Spitzenburgh*, *Northern Spy*, *Roxbury Russet* are good, long-keeping winter sorts.

Farmers too often make a mistake in raising fruit they are compelled to sell in a few days after gathering, no matter what may be the state of the market.

SOIL AND TREATMENT.—Different kinds of fruit require somewhat different soils, as well as different treatment.

The *Cherry* should not be very highly manured, especially the Heart and Bigarreau classes, as high manuring causes a growth so rapid as to endanger bursting of the bark upon the body and main branches, and also increases the danger of winter-killing.

The *Peach*, also, although good for nothing in a turf, or if deprived of good cultivation and frequent stirring of the soil, is not benefited by any excess of barn-yard manure. A simple crop of wheat, oats, or other sown crop, will almost ruin a Peach orchard; while potatoes, beans, roots, and even corn will not injure the trees, especially if not planted too close to them, and accompanied with light manure.

Dwarf Pears, on the contrary, being worked upon Quince stocks, require high cultivation and liberal manuring. The Quince roots being fibrous, and not disposed to go deep or far for nourishment, must have a liberal supply near by, to enable them to meet the great demand which the Pear in its productive state makes upon the roots. Soils with a considerable proportion of clay, if well cultivated, are consequently well adapted for these trees.

The *Plum*, also, seems to prefer a stiff soil, and will bear liberal manuring.

The *Pear* upon its own roots, that is, when worked upon Pear stock, is quite easily suited as to soil and manure; but if highly manured, its rampant, succulent growth makes it an easy prey to the fire-blight if attacked. Deep and thorough stirring of the soil is generally sufficient for them, without much manure, but in poor soils manure will be necessary.

The *Apple* is perhaps the most tractable of all the fruits; growing upon all soils, and struggling along under great difficulties; but it will show care and

manuring as soon as any, and should be liberally manured when the soil is not already rich.

Grape Vines also delight in being well manured, and will not give the best satisfaction without a dry bottom, and abundance of rich soil.

Where the circumstances permit one to choose among various soils, we should prefer to plant

Pears upon the most clayey portions.

Dwarf Pears on Quince stocks upon clay; and if any trees are to go in cool and damp situations, plant the Dwarf Pears.

Cherries, only upon dry, warm situations, sandy, gravelly, stony or loamy.

Peaches do best on sandy loam, gravelly or stony land, and even upon quite poor sand.

Plums do best on clayey loam.

Quinces do best on rich clayey loam.

Grapes, and all the berries and small fruit, do best on a strong loam, dry and rich.

PRUNING.—Although this operation can be performed at any time during winter, yet we consider the beginning of March the most favorable season, particularly for peaches and apricots. All gardening should be done with neatness, but above all things, let your pruning be neatly performed. We have seen trees "pruned" that looked as though cattle had been "browsing" among them. When you wish to remove a shoot, do so by means of a clean sloping cut, at the back of a bud. As soon as the bud pushes, this wound is readily healed. To do this well, however, the operator must have a keen knife. "Those things," says Thompson, of the London Horticultural Society, "which some men call pruning knives, blunt and notched, a sort of cross between a file and a handsaw, used for grubbing up weeds, drawing nails and trimming roots, are never seen in the hands of a man who understands his business or attends to it. To a gardener, his pruning knife is as much an object of solicitude as his razor. Indeed, of the two, he would rather hack his chin than his plants."

If trees are properly pruned from the beginning, a pruning knife will perform all the necessary thinning out, &c., annually, and the butchering system so much practiced, of cutting off large limbs, will be avoided, and the trees will not only present a more pleasing appearance, but will produce a finer crop of fruit.

Grape Vines that have not already been pruned, should be attended to first; and nothing will repay a judicious pruning better. The crop will be larger, and the flavor of the grape much improved. Currants and Gooseberries should be pruned rather close, in order to get perfect fruit. Deciduous ornamental trees, shrubs and roses should now be pruned. Ornamental trees only require the decaying and irregular branches to be cut away. With few exceptions, deciduous shrubs and roses require annual pruning.

MICE.—In some parts of the country, mice are very troublesome in winter—eating the bark of the tree near the ground, and thus killing it. A gentleman in Stratford, Canada West, where the mice are very troublesome, informs us, that he lost many trees by these animals, until he made an effort to save them, by painting the trunks from the ground a few inches up with a composition of tar and tallow—two parts tallow and one part tar. This he puts on the trees just as winter sets in, and since pursuing this course he has not lost a tree from this cause. If the grass is kept from around the trees, mice are seldom troublesome.

THE OSAGE ORANGE.

As a hedge plant in this country, the *Maclura*, (*Maclura Aurantiaca*,) or, as it is more commonly called, the *Osage Orange*, is constantly becoming a more general favorite. There are many other native plants, no doubt, which in particular localities, and with proper treatment, may be grown into equally as good a hedge as the one now under consideration; but for the various soils and climates of the United States, the *Osage Orange* has proved itself eminently superior to any other one plant which has ever been tried for the purpose. It appears to thrive equally well in the Eastern, Southern, Middle and Western States; in the southern part of Canada West, it has also been found to succeed. In the more northern portions of the Eastern and Western States and Canada, it cannot withstand the severity of the winters, but as a general rule, wherever the Peach may be grown the *Osage Orange* will be found to be able to endure the cold. In this vicinity, the young shoots are killed back annually from four to six inches, which, however, proves rather beneficial than otherwise. To form a good hedge of this, as well as of any other plant, it will be necessary to give it constant attention; no one need flatter himself that by merely setting straight rows of plants along his lines, that in a few years his premises will be surrounded by an impenetrable barrier; but will find, as very many already have found to their sorrow and chagrin, that they have only been producing a living monument of their indolence or ignorance. In growing a hedge, everything from the commencement must "be done decently and in order," and in this, as in many other operations, "the more haste the less speed."

If one is anxious to procure a hedge in the shortest time, he can obtain the plants one or two years old ready to be set, from parties in different sections of the country, who raise them expressly for sale; but if he is willing to wait longer, he should procure the seed from some seedsman on whom he can rely for their good quality, and grow the plants himself. If the seeds should be obtained in the fall or early winter, they may be mixed with moist sand or loam in a box with a few holes in the bottom, and placed out of doors, exposed to the weather, until ready to plant in the spring, only taking care that after they have thawed out in the spring that they do not get dry before they are sowed. But if they have remained dry until planting time, they may then be placed in a vessel, and water heated to a temperature of about 100°, or as warm as the hand will bear, poured upon them, and allowed to remain in some warm place about a week, renewing the water every day; at the end of this time the water should be poured off, and the seeds covered with a cloth kept constantly moist. They should not be more than two or three inches in thickness in this situation, as, if they are in a large body, fermentation will be liable to take place and destroy their vitality. In this condition they may remain another week, when, if the seed is good, they will have commenced to sprout, but if this does not occur so soon, water, to supply the loss by evaporation, must occasionally be added until signs of germination appear, when they may be immediately planted.

The seed bed should be dry, rich, well worked, thoroughly pulverized, and freshly dug at the time of planting. Sow the seeds, like peas, in rows, about

fifteen inches apart; or, if a large quantity is to be raised, plant double rows about a foot apart to admit the hoe between, and allow three feet between the double rows for a cultivator. The best time to plant is as early in the season as the ground becomes warm, usually in this locality during the first part of the month of May. As soon as the plants are up a couple of inches, commence working among them, and cultivate them once every two or three weeks or oftener if necessary during the season. All weeds growing near the plants which the hoe or cultivator do not disturb must be pulled out by hand. Frequent stirring of the soil and keeping it perfectly clean are indispensable operations in raising good plants. One year old plants, if well grown, will do to transplant to the hedge-row, but in most cases it will be found beneficial in the end to allow them another year in the seed bed before removal; the second year, the only attention required is clean culture, as before. In the fall, before they are to be transplanted, the most convenient way to manage them is to dig them, tie them into bundles of a hundred or more, and heel them in or bury them about two-thirds their depth in a slanting position in a dry place, where they may remain until they are finally to be disposed of.

Where the hedge is to be set, a strip of land six or eight feet wide should be plowed up and worked the previous season, or planted with some root or hoed crop; potatoes, peas and beans are among the best. When the buds begin to swell in the spring, the land should be deeply plowed and dragged fine, and will then be in a proper condition to receive the plants. Stakes may now be driven firmly in range along the whole line, and a strong cord from one hundred and fifty to two hundred feet long be stretched quite tight by the side of them; a stone laid on every rod or two of its length will keep it close to the ground and prevent its moving while working by it. The plants to be prepared for setting should have their tops and roots shortened to a uniform length of about six or eight inches each; with a common garden trowel they may now be set along the line six inches apart, and at least an inch deeper than they previously stood. The soil should be pressed firmly about the roots, which may be most expeditiously done by inserting the trowel two or three inches from the plant and crowding it towards it. In this manner the whole length of hedge may be set. If, in the course of a couple of weeks, any plants should be found not to start, they should be removed and others put in their place. As soon as weeds or grass begin to show, run a light plow with one horse on each side of the row, turning the furrows towards the row on both sides; and as soon as they again appear, plow again, turning the furrows in the opposite direction, and thus continue to cultivate the land on each side until the season shall have so far advanced that the weeds and grass no longer start. The plowing should be continued each season for at least three years. Late in the fall of the first year, before the ground freezes, a furrow should be turned up against the row on each side, to prevent the roots being thrown out by the frost. In the spring of the second year, as soon as the buds begin to start, all vacancies should again be supplied, and the tops of the plants cut down within three inches of the ground with pruning shears, which are manufactured and sold expressly for this purpose. Some time in June, before the

shoots have completed their growth, they should again be cut back to about nine or ten inches in height—which will be all the attention they will require this year. The next year, as before, early in the spring, cut back again within six inches of the previous cutting, leaving the plants now about fifteen inches in height; in June again repeat the operation, cutting six inches above where they were cut in the spring. By this time the row of plants has assumed somewhat the appearance of a hedge. In its different condition it will require a slightly different treatment. As impenetrability, and especially thickness at the base, are the principal objects to be secured, our attention hereafter in pruning must be directed particularly to the acquisition of this end. A form approaching the pyramidal is, according to the greatest experience, the best into which a hedge may be clipped. The lower part of the hedge should be clipped some time during the winter, while the plants are in a dormant state, and the upper portions left to be pruned until that time in the spring when it is making its most vigorous growth; this treatment will have a tendency to dwarf the plants and make them thick at the base. Five or six years will suffice to produce a hedge of the Osage Orange, that will in point of utility entirely supply the place of primitive, unsightly rail and board fences, and will last for ages with little expense to its owners, besides adding a new and beautiful charm to our country landscape.

WESTERN N. Y. FRUIT GROWERS' ASSOCIATION.

The Second Annual Meeting of the Western New York Fruit Growers' Association was held in this city, January 8th and 9th. The attendance was large, and the show of winter fruits the best we have ever seen in this country.

The following questions were proposed for discussion:

1st. Can the cultivation of fruits for market on an extensive scale, be recommended to the farmers of Western New York?

2d. If so, what kind or class of fruits, as Apples, Pears, Peaches, &c., are likely to be most advantageous or remunerative, under all the circumstances?

3d. How extensively is it safe to embark in the cultivation of Winter Pears?

4th. Is it advisable to plant Pears on Quince for extensive market orchards?

P. BARRY opened the discussion.

The question "Can the cultivation of fruits for market on an extensive scale be recommended to the farmers and land-owners of Western New York?" he would answer in the affirmative, without the slightest hesitation. The circumstances of Western New York are now very different from those of a few years ago. Railroads now place us within a few hours of New York city. They also put the Western States in easy communication with Eastern markets. Hence wheat growers are turning their attention to the cheap lands of the West, justly considering it poor policy to compete in grain growing on land worth \$100 per acre, with as good soil costing but \$2 or \$3. The farmer should try some other crop—one which his advantages of locality, soil and climate, will render remunerative. This Association would recommend the cultivation of Fruits, and why? Because the position, soil and climate of Western New York is all right. There is no better place in the world. The soil is proverbially fine,

and especially suitable for the raising of fruits. It is no longer a question as to its adaptedness, as fruit growing has been carried on for years on an extensive scale, and with the most profitable results. All the fruits succeed here remarkably well. Only one such cold season as last year has occurred in fifteen years, and its like may never be known again.

Look at the geographical features of our country. West of us lies Lake Erie, stretching 260 miles further west, and north of us is Ontario, with an area of over six thousand miles. These great bodies of water, not being so quickly penetrated by the cold as the earth, give us a more even temperature, and a more gradual change from warm to cold, and from cold to warm. And then look at our central lakes right in our midst, which never freeze over. Think of what an influence these bodies of water exercise on the climate of our country. Can we be better situated than we are in regard to a market? Here we have the New York Central and New York and Erie roads running through our midst, and no matter where a man is located, he can reach New York with its more than half a million consumers, Philadelphia, Boston, and other large cities, in a day. From all these reasons, he would repeat, he had no hesitation whatever in saying that the farmers of Western New York ought to turn their attention to fruit growing on an extensive scale. He would say to her farmers, curtail the amount of your lands under cultivation, and pay more attention to your fruit trees, for you will find it more profitable to work less ground and make the best use of it, than to monopolize a great extent of farm land with a less paying crop.

H. C. SMITH, of Rochester, said farmers in Western New York had got only about five or six shillings (75 cents) per barrel for their apples this year, and he would ask whether the same ground planted with potatoes would not be more profitable.

P. BARRY hoped some other speaker would reply to this question. Farmers take no pains to sell their fruits. If they would make arrangements before hand, and pick them in proper season, they would have no difficulty in obtaining a remunerative price for them.

Dr. E. W. SYLVESTER, of Lyons, Wayne Co., said if people do not cultivate and take care of their orchards, they cannot expect good fruit from them, or fruit that will bring a good price. He had picked from one of his Spitzenburgh trees this year, five barrels. He had forty trees to the acre, giving two hundred barrels of apples, which can be sold at one dollar a barrel and barrels found. His man picked from eight to ten barrels per day, and put them up, and he calculated the profits of one acre at \$175. This is above the true estimate, as a general thing, but orchards may be brought to this point by good cultivation. He knew orchards, the owners of which, year before last, received eight and nine shillings per barrel, and made \$100 to the acre, without any extra cultivation. The owner of a farm of 183 acres, on which there was an orchard of about five acres, said year before last, he had received \$510 for his apples. The last year he got about four hundred barrels, but had not yet sold them. Here is an orchard of five acres averaging \$100 to the acre, and he (Dr. S.) doubted whether he received more than \$1,000 from the balance of his farm.

S. H. AINSWORTH, of West Bloomfield, Ontario Co., said one of his neighbors had three acres of orchard that he had taken some little pains with in the last few years, from which last year he sold the fruit for \$525. He thinks that another year he will receive from \$700 to \$1,000 from that orchard, which consists mainly of Northern Spys and Roxbury Russets. Last year was the seventh since they were grafted. Another of his neighbors sold his apples year before last, for \$125, from one acre of ground. The year before, he

received \$112, and the last year \$75. The apples were sold in home markets. All the orchards in his section could be made to yield in like manner, as the ground on which these stand is no better than the average.

ARCH. STONE, of Hinmanville, Oswego Co., said in his section of the country they had had no market for fruits, and no apples worth marketing, until within a few years. Now they had a better market, and that encourages the growing of better fruits. The Roxbury Russet is their best winter apple, but a bushel will bring more in the spring than a barrel in the fall. The Baldwin he should think was best adapted to their soil and climate. He knew one tree that two years ago produced twenty-eight bushels, which sold for about \$40. Last year there was in the neighborhood of \$150,000 brought into the county for fruit sent out. Their Agricultural Committees estimated one acre of orchard as equal in value to twelve in other crops, but he thought the figures large enough at five to one.

L. C. SMITH, of Livonia, Livingston Co., said if there were two sides to this question, we had heard but one as yet. If it was a fact that we of the portion of country that raises the famous Genesee wheat have come to a point that we must give up that business and turn our attention to the raising of fruit, he wanted to know it, and to hear it fully established.

L. B. LANGWORTHY, of Greece, thought apples would pay at five shillings per barrel in a decently cultivated orchard, but much larger profits can be made. A gentleman of his acquaintance had sent some twenty thousand bushels of apples to England in a year, and at a very great profit. He (Mr. L.) had sent the Newtown Pippin to the West Indies and made well of it, and therefore he thought we may decide that apples can be transported. He had known the Virgalieu pear to sell in New York at \$18 per barrel. If properly cultivated, there is no fruit as fair and as sound as that of Western New York, and it will ever command a ready sale, and take the preference in any market in the world.

H. E. HOOKER, of Brighton, had been asked in one of the questions, whether it is advisable to plant Pears on Quince stocks. He supposed there were none there who had had sufficient experience on this point to be able to judge, still he thought we might arrive at something like a conclusion when we throw all the little experience we have had together, and compare results and consider causes. He was in favor of plenty of room and light among trees. By planting 680 pear trees on an acre, the hardy sorts will produce in the neighborhood of a bushel, more or less. These 680 bushels, at the price fine pears command in the autumn, \$4 a bushel, give us \$2,720 from one acre of ground! Half that number of trees, and at \$2 a bushel, give us \$680. Dwarf pears, such as White Doyenne, Louise Bonne de Jersey, Duchesse d'Angouleme, Bartlett, and a few other select varieties, may be made to produce this when five years old. In reference to the prices here mentioned as not likely to be realized for winter pears: 340 bushels Easter Buerre, at 150 pears to the bushel—which is few enough, and they have to be large ones with which 150 will fill a bushel—makes 51,000 pears to the acre. These sold at ten cents each—and in New York they sell for a shilling and eighteen pence—gives us \$5,100 for a single acre!

S. H. AINSWORTH said that the profit of wheat in this section is about ten dollars per acre. Those who have been raising apples in good orchards will average at least fifty dollars a year above all expenses. Of pear orchards we have but very few in our county. One is that of Mr. Chapin, of Canandaigua, which had been set nine years. Six years after being set out, he sent some fruit to New York, and obtained \$8 a barrel for it. The next year he had thirty barrels of fine pears from his three acres. For those he obtained \$15 a

barrel, making \$450. The year before last he had fifty barrels, which he sold in New York for from \$18 to \$20 a barrel—making nearly a thousand dollars. This last year his crop was partly a failure, which he thinks was owing to planting corn in his orchard, and close up to the trees. When his pears were nearly grown they dropped off without ripening, and he lost nearly all. It was a pretty good crop of corn, but worth little in comparison to the pears he would have had.

A Virgalieu tree from 60 to 70 years of age stands on the old Judge Howell farm near Onondaga. That tree for 40 years in succession has borne every year, and for the last 20 years has averaged not less than three bushels a season, which sold for \$3 a bushel. A gentleman of Onondaga county sold from three trees \$137 worth of pears. Another gentleman in Onondaga has three Virgalieu trees. He has sold their product for \$60 a year for several years back, and has been offered \$50 for the fruit on the trees before picking. The soil is loose, with a heavy clay subsoil. They are all pear stocks. These trees have had no extra attention. Those trees of Judge Howell's have had scarcely any attention for a number of years. If these estimates hold good in other cases—and he knew no reason why they should not, in any good soil—then the cultivation of pears will pay the farmers of Western New York, *thirty times as much as the raising of wheat.*

P. BARRY said, in opening the discussion, he had overlooked a matter of considerable importance. That is, we are here in the northern limits of the fine fruit growing region, and the consequence is, that our winter fruits are preserved better than in any other section. In New Jersey, Pennsylvania and Ohio, their winter fruits become fall fruits, and will not keep in winter equal to those grown in colder sections. Now, we have here on the table winter pears that you can not find anywhere else in near so great perfection. This is one thing which should be borne in mind by our fruit growers. Some say that these warm climates will always have the advantage of us in competition, but in this respect they have no chance whatever.

In regard to the distance apart trees should be planted, L. BURTIS, of Rochester, said that he did not agree with those gentlemen who consider twenty-five feet too nigh for apple trees. He had traveled through every county in the State, and through a large portion of several other fruit growing States, and where he had seen trees growing close together, he had always found them loaded with fruit, while he had also found many orchards with trees thirty to fifty feet apart, with little or no fruit. He concluded therefore, that by setting trees close they protect each other from the wind and storms, and are consequently in a better condition for bearing and sustaining a heavy crop. He would plant trees twenty feet apart. They would then fully protect each other, and can be cultivated as well as if further apart.

L. B. LANGWORTHY believed the theory was true that the roots spread as far as the branches do, and therefore his opinion was that we plant our trees too nigh together. Thirty-three feet is the general rule, but he had always held that forty feet is better than a less distance; then you can have crops of some kind without injuring the trees. Apples are like all other crops, if they are crowded too much they must be reduced, either in size or quantity.

L. COLBY, of Nunda, had been cultivating pears for about thirty years, and had been able to make standards bear as soon as those on quince. By transplanting them three times, and each time clipping the roots, we cause the usually few and long roots to branch out, thus hastening their bearing. He had a Seckel tree four or five feet high that bore 68 perfect pears the first year after setting. It bore some the first year.

He found that the quince stock injures the flavor, and renders the tree more liable to blight.

JOHN M. MARRISON, of Tompkins Co., related his success with the King apple, of which he had sold nearly 100 bushels for \$2.50 per barrel. This season he had ten trees from which he picked 105 bushels! Three trees which had been seven years grafted produced in that time 51 bushels. Its great size was the only objection fruit dealers had to this apple. He thought pears would thrive better on pear than on quince stocks.

H. E. HOOKER was sorry to see the comparative merits of the pear and quince stock left in just the shape it now stood. He never had seen on pear stocks specimens of pears exhibit so high a degree of fineness as those on quince.

H. C. WHITE, of Buffalo, thought the cultivation of apples should be mainly recommended by this Society, as they require less skill and attention than any other fruit. Farmers generally could not cultivate pears with profit, with their present knowledge and habits. He thought more attention should be given to the Isabella grape, which he was certain would be made remunerative—if it would not pay in the market it would on the table. He hoped the cultivation of fruits would be impressed on the attention of the farmers of this section. Farmers should not expect winter apples to bear a remunerative price if sold in September; but if kept until a proper season they would be profitable.

The following list of fruits were recommended for general cultivation in Western New York:

SELECTED PEARS.—*Bartlett, Louise Bonne de Jersey, Virgalieu, (or White Doyenne,) Lawrence, Vicar of Winkfield, Glout Morceau, Easter Buerre, Sheldon, and Flemish Beauty.*

APPLES.—*King*, (it was proposed to add of Tompkins County, as several spurious varieties were in cultivation, some of which were described by members present as much inferior to the Tompkins Co. King, a variety stated to have come originally from New Jersey but never distributed till grafted, where it now prevails;) *Rhode Island Greening, Northern Spy, Baldwin, Gravenstein, and Fall Pippin.*

FRUIT IN ILLINOIS.—The *Prairie Farmer* states that around Chicago the thermometer ranged from 24° to 32° below zero, and says:

"We have just examined our peach trees, and find the fruit buds dead; but this is not the worst of it—the new wood is dead; and it is to be feared that most of the old trees are so badly frostbitten, that they will die out, body and branch. * * * Nothing can now be done, though we advise cutting back, very severely, before the sap starts in February and March."

Last year, throughout Western New York, the thermometer fell from 20° to 26° below zero. All the peach buds were killed, and it was feared that all the young wood and most of the old trees were killed also. On this supposition, thousands of peach trees were cut back so severely that nothing but the trunk and a few of the large branches were left. These trees made a vigorous growth the next summer, and will doubtless bear fruit in a year or two. Those not cut, however, did equally well—making the finest growth we ever saw before—and will probably bear a good crop next year. We say, then, do not be too hasty in "cutting back very severely;" wait till the sap starts, and you will then be able to see what you are about.

We shall be glad of the experience of our readers on this subject.

Ladies' Department.

THE FAIRIES' FROLIC.*

BY E. W. B. CANNING, STOCKBRIDGE, MASS.

CHAPTER FIRST.

Musing alone the other day,
And giving fancy transient play,
I dropped into that phase of life
The poet speaks of in his dreams—
When truth that *is*, and truth that *seems*,
Blend in fantastic strife.
While thus entranced, appeared to me,
As real as a thing could be,
The curious fantasies that follow,
Which, although due not to Apollo,
Gave me some grains of truth to swallow;
For truth sometimes, as it would seem,
Is taught us even in a dream.

Methought I saw an ancient codger,
Whom I, for short, appellate "ROGER;"
(It might have been TOM HARRIGOOD,
Or other name of longitude.)
Said ROGER was a hard-faced man,
And o'er his brazen features ran
Some dozen lines or more, which care,
And avarice, and "wear and tear,"
And selfishness had furrowed there.

Broad acres ROGER could command
Of pasture, field, and meadow land,
Whereon he raised tremendous crops,
That rivalled even his chimney-tops.
Potatoes—"Carters" and "Meshanocks,"
Sand-Lakes" and "Pink-eyes," "Rappahanocks,"
Mercers"—in bushels by the score,
When *not* to walk his fields forebore;
Half-miles of corn, green, stout, and tall;
Wheat, rye, and oats and barley—all
(Pardon my fancy for such yarns)
Determined seemed to burst his barns.
To mention not his tons of hay,
That scented the capacious bay,
Or rose in mimic mountains where
He stacked the surplus, rich and rare.
Omit, too, all those minor things
Of which no decent poet sings:
Carrots and cabbage, onions, beans,
Squashes and pumpkins, beets and greens,
All of a California size,
Which made old ROGER bless his eyes.
And then his dairy! What a store
Of milk-pans, brimmed and running o'er!
Cheese by the hundred, large and sound,
Like FALSTAFF'S stomach, plump and round.
Such were the good things ROGER had:
But every good hath eke its bad.
There were some other things he'd *not*,
For his ideas never shot
Higher than steam of dinner-pot.
Of the true and the beautiful,
He, as his ancient milking-stool
Was ignorant; and much I fear,
Woe never cost his eye a tear,
Or his purse six-pence—save his tax,
And that stuck to his hands like wax.
To sum the whole,
(If you were on such trial bent),
Just bait a mouse-trap with a cent,
You'd catch his soul.

And now 't is time, this story telling,
Briefly to speak of ROGER'S dwelling.

It was the same (save greater wear,
And thumped by later tempests) where
His sire and grand-sire life had tried,
Toiled, married, moved, grew old, and died:
Guiltless of paint for fifty years,
Sad as a Hottentot in tears;
With storm-beat boards, whose creak and waw
Asked vainly for another nail.
No tree of grateful shade grew nigh,
To cool the beams of hot July:
But down they shot, like hissing ball
Sent into doomed Sebastopol.
Stumps two or three were there, to show
Where maples, many years ago,
Had dared in honest pride to grow.
Alas! their owner thought them made
For back-logs rather than for shade:
They shadowed, too, a carrot-patch,
So down they went with all dispatch.
Of fruit-trees, ne'er a one had he,
Nor for them cared a "sumarkee":
I'm wrong, for in one pasture grew,
Or rather stood, a sorry few,
Which for their hold had fought the storm
A hundred years, and moss and worm.
They *looked* like apple, and his axe
Had spared them, for they paid a tax
Of cider (though 't was very small).
Whene'er they strained to bear at all.
Of other kinds, peach, pear, or plum,
Cherry or quince, had sooner come
In grounds of Pandemonium.
His yards to better ends, thought he,
Could open and devoted be.
Carts, harrows, plows, and chips and muck,
And various kinds of farming truck,
Lay scattered round—the veriest clutter,
But grateful as his bread and butter.
Old ROGER'S field-crops were his pride;
But give him these, and all beside,
Except his stock, was balderdash;
And as for fruit—such foolish trash
His boys could steal, he took for granted,
On moonless nights, and when they wanted.
Careful, on such nocturnal rummage,
The owner sought not *him* for damage;
And only for such legal jogging.
The boys were called to a flogging.

CHAPTER SECOND

Thus endeth part first of my story.
One day, absorbed in vain self-glory,
In corn-field, on a pumpkin, sat
Old ROGER. Down he put his hat,
Then plied a horn of Holland gin,
Which he had bought for *medicine*;
And, leaning 'gainst a tree that grew
Where it could never *damage* do,
Composed himself his crops to see,
And fell into a reverie.
And now the strangest thing of all
Transpired, to which I beg to call
Your strict attention;
Fearing that, in this latter day,
When spirits so fantastic play,
You'll think that what my muse may say
Is pure invention.
Was I mistaken that I heard
A signal-whistle?—when appeared
An army of the quaintest things
That e'er employed or legs or wings.
So odd they seemed,
That sure I am no mortal e'er
Saw beings so grotesque and queer,
Save when he dreamed.
The nearest picture of their looks
You'll find in ancient story-books—
Of elf and ogre, sprite and fairy,
Some winged, some clawed, some smooth, some
Grimacing, frolicking, [haughty;
Dancing, and rollicking,
Kicking and leaping,

* We need offer no apology for publishing in our LADIES' DEPARTMENT "The Fairies' Frolic," from the *Knickerbocker Magazine*, to the exclusion of an article we had prepared for this number; not that this is applicable to the ladies, but no "ROGER" can complain of the room it occupies.

And hopping and creeping;
 Some turning somersets
 Over tall violets;
 Some little joses
 Each other's noses
 Pulling, and hiding behind the bright roses.
 Brimful of fun
 And mischief, they run
 And scamper like mice, old GRIMALKIN to shun.
 Well, such a host as this beset
 Old ROGER, and he 'll ne'er forget
 The awful way they treated him
 Till feathers sunk and lead can swim.
 All seemed with earnest zeal to be
 The champions of some favorite tree,
 Which he, with hatred unalloyed,
 Had always warred on and destroyed.
 Each little imp possessed, I ween,
 His own peculiar magazine:
 Capacious pockets, hugely stored
 With various fruits — a motley hoard,
 Which he, with hearty aim inspired,
 Right plump at ROGER's target fired.
 Here flew a peach and there a plum,
 While fore-and-aft the cherries come.
 Alarmed, he squirmed on every tack,
 And caught on every side a whack;
 Hard apples bounded from his pate,
 And thumped his ribs at shocking rate.
 The little torments mocked his fears,
 Plugged at his eyes, his nose, his ears,
 His mouth, his cheeks, his sides, his breast,
 Without a single moment's rest.
 Now, with a mad, spasmodic grasp,
 Old ROGER sought a foe to clasp,
 Clutching around him far and near;
 But, with inimitable leer,
 Of his intention well aware,
 They left his fist fast-closed in air;
 Then, full of glee, like hail and rain,
 They poured their missiles in again.
 Perhaps a listener might have heard
 The pigmy-torturers fling a word
 Amid their sport, like this, to wit:
 * Please tell me how those apples fit!
 Take that, and that!
 And learn, old rat!
 Your war on our domain to quit.
 At him, my braves!
 Till peace he craves —
 No sin his villain blood to spill!
 We 'll pommel him
 Till stars are dim;
 He 's worse than the Nebraska-Bill."
 No lack was there of hearts and hands
 To execute these said commands.
 Battered and bruised and blind and numb,
 Old ROGER thought his hour had come.
 With conscience, then, fast growing tender,
 An unconditional surrender
 He deems it best to make, until
 He time may have to write his will.
 So, with an accent far from bold,
 He calls: "Peccavi!" "Quarter!" "Hold!"
 "Cease!" quoth the leader of the host:
 Each Lilliputian at his post
 Repaired at once, from arms and cries,
 But still looked daggers through his eyes.
 Then came a parley, and a truce,
 The terms of which I beg excuse
 For not repeating, as they 're long,
 Inapt for weaving into song.
 Their purport may be gathered well
 From the brief sequel I shall tell;
 And I 'll for ROGER's credit say,
 He kept them to his dying-day.

—
 LONG years elapsed, and ROGER's home
 Had quite a different place become:
 Fine rows of thrifty, shady trees
 Lifted their verdure to the breeze;
 The plum, the apple, and the peach
 And pear were all within his reach;

While, nailed to every garden wall,
 His grapes were neither few nor small.
 In fact, his nursery was famed
 The country o'er, for model named.
 Still greater crops increased his joys;
 He grew in wealth, and then his boys
 Went forth no more o' nights to sin —
 Their "mother knew that they were in."
 His neighbors dropped the name "old codger:"
 'T was now respectful "Mr. ROGER."
 His dwelling, too, kept pace with all:
 The shingles new, and painted wall;
 His fences straight, upright, and stout;
 His door-yards neat and clear throughout.
 In fine, whoever might ROGER scan,
 Found him a wholly-altered man.
 The little sprites who nightly came
 To frolic on some funny game,
 Declared he 'd met their expectation,
 Needing no further visitation.

And now, my friends, the *moral* hear;
 Then you and I are this time clear.

M O R A L .

Not crops, alone, gigantic, can
 Of a curmudgeon make a man;
 And wondrous 't is, how raising fruit
 Can civilize the human brute.

HINTS FOR HOUSEWIVES.

VEGETABLES SHOULD BE COOKED IN SALT WATER.
 —It is well known that after potatoes are boiled and the water poured from them, if they are well shaken up, *with the addition of a little salt*, their flavor is much improved. Why, we know not. Professor BOETHGER, a German chemist, speaking in reference to boiling vegetables in water to which a little salt is added, says:

"If one portion of vegetables be boiled in pure (distilled or rain) water, and another in water to which a little salt has been added, a decided difference is perceptible in the taste and odor, and especially in the tenderness of the two portions. Vegetables boiled in pure water are vastly inferior in flavor. This inferiority may go so far in case of onions, that they are almost entirely destitute of odor or taste, though when cooked in salted water, they possess, in addition to the pleasant salt taste, a peculiar sweetness and a strong aroma. They also contain more soluble matter than when cooked in pure water. Water which contains 1-420th of its weight of common salt is far better for cooking vegetables than pure water, because the salt hinders the solution and evaporation of the soluble and flavoring principles of the vegetables. This explains the advantage of the general use of salt in cooking, and the impossibility of correcting, by subsequent additions of salt, the want of flavor in vegetables that have been boiled without it."

SAUSAGE MEAT is best preserved in new cotton bags a foot long and two or three inches in diameter, which after filling are dipped in and coated with melted lard. When used, the bag is sliced off with the meat, as it is much easier to make new ones than to preserve the old.

CHURNING.—In churning butter, if small granules of butter appear which do not "gather," throw in a lump of butter, and it will form a nucleus, and the butter will "come."

MINCE PIE MEAT will keep well for several months, boiled, chopped, and packed down in a stone jar covered with molasses.

Youth's Department.

GARDENING FOR YOUTH.

ANNUAL PLANTS.

IN our last number we explained and illustrated the principal parts of a plant; it will be necessary, in speaking of plants, that these distinctions be quite familiar. Without now referring to the botanical divisions of classes and genera, we will here say that plants, in reference to the production of their seeds, are divided into annuals, biennials, and perennials. Annuals are such as are produced from the seed, attain their full growth, flower, form their seeds, and die in one season; as, for example, the pea, bean, wheat, oats, &c., &c. Biennials require two years from their germination to their full development; flowering at the close of the second season, producing their seed, and then decaying. Familiar examples of this division are found in the cabbage, beet, onion, &c. Perennials are such as flower and continue to live year after year; as, for example, the forest and fruit trees, the rose, the lilac, the common garden pink, lilies, crocuses, hyacinths, &c. Among plants cultivated for the beauty of their flowers, the annuals exceed all others in number, in variety and brilliancy of colors, and in rapidity and ease of propagation, and therefore justly deserve the attention of every one who by the culture of flowers attempts to adorn that cherished spot called home. To enumerate all the varieties of annuals would be a laborious task, and we shall therefore only mention a few of the most beautiful, and give some general directions for their cultivation.

ASTER CHINENSIS—China Aster.—The China Aster was introduced into Europe by Father D'INCARVILLE, a missionary in China. He carried the seeds from China to Paris in 1730, and since then they have been disseminated throughout the world. Perhaps no flower has been so completely transformed and improved by careful culture as this. When first brought to notice it was a very ordinary affair, having merely two or three rows of petals surrounding a large yellow disk; now, one who never saw it except in its natural state, would scarcely recognize the beautiful offspring of so ugly a parentage. Perfect flowers are, however, by no means common; on the contrary, only the poorer sorts are generally known. Among the many hundreds we saw on exhibition at the various horticultural shows in different parts of the country during the last season, there was not one really good specimen, and but very few that were even tolerable. In a good flower the petals should be thick and smooth at the edges; the flower should be double to the center, round and even in outline, and regular in the disposition of the petals; the color for a self should be decided, and for a variegated flower each color should be distinct, without intermixing. The plants are easily propagated by sowing the seed on a gentle hot-bed or a warm border as early in the season as practicable; when they are two or three inches high they should be transplanted singly into a rich, dry soil, a foot apart.

BALSAMINA—The Balsam.—This plant is a native of the East Indies, China, and Japan, and was carried to Europe in the sixteenth century. It is no doubt familiar to many of our readers by the com-

mon name of Lady Slipper. When well grown the densely crowded column of large double flowers is a remarkably beautiful sight, but fine specimens are very rarely seen. It has many distinct shades of color besides producing variegated blossoms of every conceivable sort. The principal single colors are white, red, purple, scarlet, and rose. The flowers, when perfect, are so large and double as closely to resemble a medium size, well formed rose. Its propagation and treatment may be the same as for the Aster, only being particularly careful that the soil into which it is transplanted is quite rich and well worked.

BARTONIA AUREA—Golden Bartonia.—This is one of the most beautiful of the California Annuals. It was first brought to notice in 1835. Dr. LINDLEY, the celebrated Botanist and Vegetable Physiologist, observes: "It is only beneath the bright sunshine that its splendid flowers unfold. In the early morning the plant is a shabby bush, with pale, greenish gray branches, and weedy leaves; but as the sun exercises his influence, the petals gradually unroll, as if in acknowledgment of his power, till every branch is radiant with gold; and so metallic is the lustre of the inside of its petals, that one would really think they must be composed of something more solid and enduring than the delicate and perishable tissue of a flower." The seeds should be sown about the middle of spring, in a warm, rich, moist soil.

CAMPANULA—Bell Flower.—Species of this plant are to be found in every part of the world. It has long been cultivated, and its graceful, pendant, bell-shaped, blue flowers are universally admired. The seed may be scattered thinly over a bed in any common garden soil, and lightly raked in as, early in the spring as the ground becomes warm. If the plants stand too thick after they are up a few inches, they can be transplanted.

CALANDRINIA SPECIOSA—The Showy Calandrinia.—This pretty little flower is a native of Northern California, where seeds of it were first obtained in 1832. The seeds should be sown, any time during the spring, in dry and exposed situations, where it can have abundance of light and heat. It requires very little water, and flourishes best in weather when most other plants are burnt up.

CONVOLVULUS PURPUREUS—The Purple Convolvulus.—The Purple or Major Convolvulus is well known in this country under the name of Morning Glory. It is a native of Asia and South America, and was probably introduced into European gardens early in the seventeenth century. The flowers vary much, displaying many shades and combinations of white, reddish-purple, bluish-purple, and violet. It appears to the best advantage when trained on strings reaching from the ground over windows or against a wall. The seeds should be sown early in the spring in shallow drills, and lightly covered. The plants, when up, should stand about an inch apart.

CONVOLVULUS TRICOLOR—The Three-colored Convolvulus.—It is known commonly under the name Convolvulus minor, or Dwarf Convolvulus. It is a beautiful flower, with three distinct colors—yellow, blue, and white; and is a native of Spain, Portugal, Sicily, and the North of Africa. It is worthy of very general cultivation. The plant grows about six or nine inches high, and blossoms profusely. The flowers always fold in cloudy weather and at night. The seeds may be sown early in the spring, an inch or two apart, in a dry, light, and rich soil.

Editor's Table.

CHEERING PROSPECTS.—We are happy to inform the friends of the GENESEE FARMER that its circulation the present year will far exceed our most sanguine expectations. Up to the present date, (January 28,) our subscription list, as compared with the list at the same time last year, is as 25 to 13. This is nearly double. But as at this date last year, not quite half our ultimate subscription list was received, we shall doubtless this year also double our *present* list. These are most cheering prospects, for which we are principally indebted to those true friends of rural improvement who have so energetically acted as voluntary agents for the GENESEE FARMER. They will accept our sincere thanks.

We would ask subscribers at Post Offices where only one or two numbers of the GENESEE FARMER are now taken, to get us up a club of eight. The prejudice against "book farming" is gradually wearing away, and it is now a comparatively easy matter to get subscribers. There are surely in your neighborhood seven men besides yourself who, were they asked, would be willing to pay the paltry sum of 37½ cents for a paper which contains *much more* agricultural and horticultural matter than any of the *dollar* monthlies in the country, and nearly as much as any of the *two dollar* weeklies, and *more* than those whose loud pretensions and constant self puffing have enabled them to attract considerable attention.

Those who have sent 50 cents for a single copy, can send \$1.50 more for a *club of five*, or \$2.50 more for a *club of eight*. Those who have sent \$2.00 for a *club of five*, can send \$1 more and increase the club to *eight*, and be entitled to a copy of the *Rural Annual* for getting up the club.

Look at the *Premium List* for 1856, and see what liberal offers we make our agents.

OUR PREMIUMS.—In the May number we shall announce the successful competitors for the premiums which we have offered for the greatest number of subscribers obtained previous to the 15th day of April. We trust that our agents will keep this in mind, and not abate their efforts until they have done their best.

To those who have not yet undertaken to compete for a premium, we would say, it is not too late; by energetic and industrious action, you may yet gain the first rank.

Do not hesitate to commence because others may have gained a start upon you—"the race is not to the swift, nor the battle to the strong."

Let every agent renew his efforts. How few have done all they can do. If you do not succeed in obtaining a large premium, you are sure of one for every club of eight or more.

Subscribers or agents desiring copies to use in obtaining subscriptions, will be supplied gratis by applying to us, or any they may use of their own numbers, and soil or lose, we will willingly replace.

UNITED STATES AGRICULTURAL SOCIETY.—The Fourth Annual Meeting of the United States Agricultural Society was held at Washington January 9—12. Many delegates were prevented from attending by the delays on the railroads caused by the heavy snow-storms, so that the meeting was not large.

From the Report of the Treasurer it appears that the receipts at the exhibition at Boston were \$31,808.58, and from sales, &c., \$5,363.96. There was paid out, for premiums, \$10,205.98, other expenses, \$25,054.44; leaving a balance of \$1,822.12 in the treasury.

The President read a series of resolutions from the Illinois Legislature, asking appropriations from Congress for agricultural purposes. Referred to a select committee, of which Prof. HENRY, of the Smithsonian Institute, is chairman.

D. J. BROWNE, of the Patent Office, read an interesting paper on the improvement of the horse in the United States. He recommends that depots for stallions of approved breeds be formed in the several States and Territories, and that breeding horses of one or both sexes be imported from various parts of Europe, Northern Africa, and South America. An adequate appropriation should be made by Congress for the purpose, or it could be done by the States themselves through their Agricultural Societies.

Capt. VAN VLEET, U. S. Army, read a paper upon the Rocky Mountain Sheep.

Prof. BAIRD, of the Smithsonian Institution, exhibited specimens of the horns, hoofs, head, and hair of the Rocky Mountain Sheep, and urged several reasons why the animal should be domesticated, stating that, wild and difficult of access as they were, an appropriation of from \$100 to \$200 would induce some hunters about Fort Larimer to persevere in their efforts until several pairs of these animals could be obtained, which would be sufficient to warrant an attempt at their domestication.

D. J. BROWNE spoke of the attempt to domesticate the buffalo and cross the breed with that of the tame cattle, and went into some details showing the doubtful success of the attempt.

B. P. POORE gave a description of an attempt his father made to domesticate imported sheep of a fine breed among the hills of Georgia. The result of the experiment was that most of the sheep died, and the shepherds who had been brought over to take care of them insisted that the reason of their death was that the country was too wild for them. Mr. POORE thought that if this country was too wild for the European sheep, it must be the very place in which the experiment of domesticating the mountain sheep would meet with the greatest success.

D. J. BROWNE offered a resolution that the Executive Committee be empowered to import seed wheat from the Mediterranean and Black Sea, which, "when cultivated in various sections of the United States, matures several days earlier than the ordinary varieties in use," and is more prolific.

Mr. KIMMEL thought the importations could be made through our American Consuls residing in the countries where these varieties grow. He spoke of an attempt he had made to domesticate a kind brought from a part of Europe ten degrees further north than the place in America where it was planted. The result was, that in the course of a few years it had assumed the same appearance as native wheat.

Mr. BROWNE thought wheat should be brought from a warmer climate than that of the place in which it was planted.

The second day was occupied in a warm and somewhat

personal discussion on meteorology, between Lieut. MAURY and Prof. HENRY.

Afterwards the "Executive Committee" tested a dozen of Mr. LONGWORTH's sparkling Catawba, sent by that gentleman for the "Secretary's acceptance."

The Third Day was occupied in the election of officers, which resulted as follows:

For President.—MARSHALL P. WILDER, of Mass.

For Vice Presidents.—J. D. Lang, Maine; H. F. French, New Hampshire; F. Holbrook, Vermont; Simon Brown, Massachusetts; Joseph Cooke, Rhode Island; John A. Rockwell, Connecticut; Dr. J. P. Beekman, New York; Geo. Vail, New Jersey; Isaac Newton, Pennsylvania; J. W. Thompson, Delaware; A. Kimmel, Maryland; G. W. P. Custis, Virginia; H. K. Burgwyn, North Carolina; R. F. Walston, South Carolina; K. Peters, Georgia; C. C. Clay, Jr., Alabama; J. Perkins, Jr., Louisiana; J. T. Worthington, Ohio; M. L. Underwood, Kentucky; J. Bell, Tennessee; Jos. A. Wright, Indiana; J. T. Kennicott, Illinois; Thomas Allen, Mississippi; R. Beebe, Arkansas; J. C. Holmes, Michigan; D. L. Yulee, Florida; T. J. Rusk, Texas; J. W. Grimes, Iowa; P. Ord, California; W. W. Corcoran, District of Columbia; J. M. Gallegos, New Mexico; H. H. Sibley, Minnesota; P. W. Gillet, Oregon; C. Lancaster, Washington Territory; E. Hunter, Utah; B. B. Chapman, Nebraska.

Executive Committee.—J. A. King, New York; A. S. Elwyn, Pennsylvania; D. Jay Browne, District of Columbia; W. H. H. Taylor, Ohio; R. P. Waters, Mass.

Secretary.—Wm. S. King, Massachusetts.

Treasurer.—B. B. French, District of Columbia.

Philadelphia has been fixed upon as the place for holding the next Fair.

The *Rural New Yorker* for January 26 contains a long article from Dr. FITCH, the State Entomologist, for which it probably paid pretty handsomely. Such a thing is so unusual with the *Rural*, that its modest publisher, instead of treating us with the usual paragraph about the enormous circulation, unparalleled popularity, immense influence, and astonishing usefulness of his paper, varies the tune as follows:

"It may not be improper to add that, aside from the matter furnished by its editors, this number of the *Rural* contains articles which cost us some fifty dollars, and the engravings are worth nearly an equal amount. Those who complain at the slight advance on the club price of the paper, need scarcely be assured that our profits this year, even with an increase of from ten to fifteen thousand subscribers, will not enable us to make greater dividends than heretofore,—for we could better afford to furnish such a paper as the *Rural* was two years ago, at its then price, than we can the present volume at the advanced rate of club subscription."

The past experience of the *Rural* man has doubtless led him to believe that its readers have a capacious swallow; but this time he is surely presuming too much on their credulity. Let us see. If we are to credit the *Rural's* own statement, its circulation last year was 35,000. Now "an increase of from ten to fifteen thousand subscribers" would give forty-five to fifty thousand. Say 40,000. The "slight advance on the club price of the paper" is 25 cents. It follows, therefore, that the profits are \$10,000 greater than they would be at its former price; and yet we are told that "we (the *Rural*) could better afford to furnish such a paper as the *Rural* was two years ago, at its then price, than we can the present volume at the advanced rate of club subscriptions"!!

What kind of paper "the *Rural* was two years ago" it does not become us to speak. Of the cost of publishing the paper then and now we may hazard an opinion.

First, the paper the *Rural* was printed on two years ago, and the press-work, cost more than they do now—and those

are the great items. (We are informed that the *Rural* now pays for press-work three cents per "token" less than it did two years ago. This, on an edition of 40,000, is a saving of about five hundred dollars a year!) The cost of setting up the paper, proof reading, &c., was nearly or quite as much two years ago, as at present. Folding, mailing, &c., the same, of course. The only difference then, if there be any, must be in the cost of editing the paper and of the illustrations. The "able corps of assistant editors" is the same now, we believe, as it was two years ago, minus JOSEPH HARRIS. His salary, small as it was, would doubtless be much more than sufficient to pay the half dozen "special contributors" whose names are now given in the *Rural*. Each of these gentlemen wrote for the *Rural* two years ago, as much in the aggregate, probably, as they do now. So much, therefore, for the increased, or rather decreased, cost of editing the paper.

Of the illustrations, two years ago, we have nothing to say—we admit that they did not cost the *Rural* much. But do they cost it any more this year? "Yes," replies an innocent *Rural* reader, "in the number for January 26, it is said they cost near \$50." Such is certainly a fair inference from the language above quoted. Let us see. The first cut is "Hallock's Cross-cut and Circular Saw-mill," (a really valuable machine, by the way,) a cut which the *Rural* was paid eight dollars for putting in. It has been in the *Rural* before, and will be found in our advertising columns.

The next cut is the "Lawton Blackberry," which was engraved for the publisher of the GENESEE FARMER. As a second hand cut it may have cost the *Rural* one-tenth of the original cost of engraving—say one dollar.

The third cut is a "Deaf and Dumb Alphabet," a common second hand thing, which may have cost the *Rural* fifty cents or a dollar!

The fourth and last cut is a silly charade—the only original cut in the paper—costing, perhaps, two dollars; and yet the *Rural* has the face to tell its readers that "this number contains engravings worth nearly" fifty dollars!! Go it, Neighbor! Swagger and pretension have done you good service so far, and become you well. But don't talk so much about "low-priced" papers.

P. S. Wonder if the story about the fifty thousand subscribers is as reliable as the story about the fifty dollar cuts?

DEATH OF DR. T. W. HARRIS.—This well-known entomologist, died at Cambridge, Mass., of dropsy on the chest, on the 16th ult. Dr. H. has been for many years librarian of Harvard University, a position which enabled him to pursue his favorite studies with great advantage. His work on "Insects Injurious to Vegetation," as well as his frequent contributions to our agricultural and horticultural journals, have been of great benefit to this branch of science.

BIRMINGHAM CATTLE AND POULTRY SHOW.—A lady correspondent, writing to us from England, adds in a postscript: "I have just attended the great Cattle and Poultry Show at Birmingham. There were 1,800 pens of poultry! The cattle were splendid. The Herefords and Devons take the lead, at least so I should judge. There were few Leicester sheep present, the Cotswolds and the Shropshire Downs being evidently the favorites. The show on the whole was magnificent, but, from its select character, to me less interesting than many of the American Fairs which I have attended."

THE GENESEE FARMER.—Never since the commencement of this periodical have its prospects been more flattering, or its success and usefulness more certain. We have now on our books the names of nearly twice as many subscribers as we had at the same date last year. It is gratifying to know that our efforts to furnish the farmers of this country with a cheap, useful and reliable agricultural journal are so well appreciated. Let our friends and the friends of agricultural improvement still continue their efforts to increase our circulation. With proper effort on the part of each subscriber, our subscription list may still be much increased. Our friends who have interested themselves so successfully in behalf of our journal will accept our best thanks. The *Genesee Farmer* is not inferior to any agricultural journal in the world. Its matter is prepared for its pages alone,—and we have no object but to advance the interests of our readers. Its price is so low that the poorest farmer can take it without inconvenience, and the richest cannot afford to “get along” without it. We give a few extracts from our business letters, showing the estimation in which the *Farmer* is held by its readers:

“I have taken the *Genesee Farmer* nine years, and like it very much.”
E. R. S., Bigelow's Mills, Ind.

“I read quite a number of agricultural works, but find no one that contains so much valuable information for so little money.”
H. S., Rochford, Ill.

“I cannot get along right without the *Farmer*. I have taken it for the last three or four years, and I feel lonesome without it.”
J. W. McC., Algonquin, O.

“We cannot do well without the *Farmer*. I find every number has been worth one dollar to me in my agricultural pursuits. We find it gives us new ideas, and a taste for scientific farming.”
J. B. H., Linden, Ind.

“We have a Town Agricultural Society, formed two years ago, and have held two Fairs. If we could award a goodly number of the *Farmer* as premiums, I think that by extending its circulation among us much good would be done.”
J. B., Virgil, N. Y.

“There is no agricultural paper that I read with more care and profit than I do the *Genesee Farmer*; no where else do I find, as scientific research and investigations, such practical suggestions as are always to be found in the *Farmer*.”
H. J. F., Palmyra, N. Y.

“I have taken the *Genesee Farmer* two years, and think it is a very valuable paper, and one that ought to be read in every family. I was the only person that took it in this neighborhood, but I thought the *Farmer* contained too much useful information for me to enjoy its benefits alone, I have therefore got up a club.”
D. C. H., Rainham, C. W.

“I am trying to cultivate a small farm here in Illinois, and as I used to be a mechanic, and worked everything by pattern, I think farming should be done on the same principle; therefore, I have persuaded my neighbors to put in with me and send for the patterns. You will therefore send twenty-four copies of your excellent paper.”
E. L. T., Parks' Corners, Ill.

“I am well pleased that thou hast purchased the entire interest in the *Genesee Farmer*. I will see that it has fair play in these parts. We have a club nearly ready to send. I have induced my friend — to act as agent, while I will bring it to the notice of our neighbors. I believe it is rather the best agricultural journal published.”
J. H. A., New London, Ind.

“I shall endeavor to circulate the *Farmer* among our farmers as much as possible. It is a paper I think worthy their patronage. The useful and instructive matter which it contains, the good style in which it is executed, as well as the extremely low rate at which it is published, are all inducements for its promulgation. I shall endeavor to add more names to our club this winter.”
F. D., Staunton, Va.

“With little trouble I have formed a club. If every subscriber would take the same interest in the *Genesee Farmer*, it would be of very great importance to the publisher and an hundred fold more to themselves; for as is good tillage and well manured land to a good crop, so is a large subscription to a well regulated and well conducted agricultural paper. Farmers must learn, sooner or later, that to succeed in farming successfully they must feed the editors as well as the farm. A lean horse never plows deep.”
J. C. A., Seymour, N. Y.

“As the time has arrived for renewing my subscription for your valuable paper, the *Genesee Farmer*, I hasten to send in my subscription for the year 1856. I should be utterly lost without it. It has been my study since and including the 7th volume, and I really have no desire to part with it now under any circumstances. In fact it is like an old friend, and I hope it will long continue, as it now is, a blessing to all who take it and read it.”
G. A., Stockbridge, Wis.

“With pleasure I act as your agent, and notwithstanding the various papers published in the *West* treating upon the best modes of farming, there is not one in my opinion that will be as useful to the farming community as the *Genesee Farmer*.”
L. A. E., Mishawaka, Ind.

“May your excellent journal visit the Keystone State until every farmer within her domain shall be made acquainted with its pages, and thereby learn that a farmer's duty does not altogether consist in holding the plow, but that he may let go for a little season and peruse some well written article on plowing, and then return with renewed vigor prepared to give mother earth a dose that will make her smile on her once prodigal but now dutiful son.”

“I am still interested in your journal, and rejoice in its prosperity; and I hope it may have a still more extended circulation.”
A. Y. S., Edinburgh, O.

CHOICE SEEDS.—We would call the attention of our readers to our advertisement of Vegetable and Flower Seeds. Having found it impossible to obtain in this country a good article of the finer sorts of these seeds, and having many inquiries for them from many parts of the country, we have imported from France an assortment which we offer for sale. As we have planted seed obtained from the same source annually for the last three or four years, we can with the most implicit confidence recommend them for their freshness and genuineness. Many kinds of these seeds it is impossible to obtain elsewhere, and all of them we know to be very superior. The list of flower seeds we would especially recommend to notice, as it is very full, and embraces the most beautiful and highly prized sorts. They can be sent by mail to any part of the country.

FORM CLUBS.—We send hundreds of copies of the *Genesee Farmer* to Post Offices where only a single copy is taken. We would ask each of these subscribers to consider himself an agent, and form a club. Those who have sent 50 cents for a single copy, can have a club of five sent by forwarding \$1.50 more, or a club of eight by sending \$2.50 more. Those who have sent \$2.00 for a club of five, can increase it to eight by forwarding \$1.00 more. Let all examine our club terms and premium list on last page.

TO THOSE WHO FORM CLUBS FOR 1856.—We do not ask that all the members of a club should receive their papers at one office. We are willing to send to as many Post Offices as there are members of the club, if necessary for the convenience of subscribers. But where it is practicable, Post Masters would accommodate us by keeping a list of the subscribers at their office, and allowing us to send the whole number to their own address. This saves us the trouble of writing on all the papers. Many have done this the present year.

OUR friends ordering the *Farmer* will be particular in giving the names of the Post Office, County, and State; also in writing names plain, as by this much perplexity may be avoided to ourselves and subscribers.

AGRICULTURAL BOOKS AND LIBRARIES.—We refer all to our offer of Agricultural Books. We know of no better way in which a young man could obtain a few good Agricultural Books than by obtaining subscribers to the GENESEE FARMER. The fall and winter months afford leisure, and the price of the FARMER is so low and its merits so well appreciated, that few will refuse to subscribe if solicited. We will send specimen numbers and show-bills to all who apply.

BOUND VOLUMES.—The volumes of the *Genesee Farmer* from 1847 to the present time, half-bound in sheep, for sale at this office at 62½ cents per volume. In addition to the price of the volume, those who order them to be sent by mail should inclose twenty-five cents for each copy, to prepay postage.

MARKET REPORTS.—We intend to give in tabular form an accurate report of the prices of farm products in the principal markets of this country, Canada, and Great Britain. It is crowded out this month.

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY FOR 1856.—Copies of this work will be sent by mail free of postage to any one remitting to this office the price of the book—paper cover, 25 cents: cloth, 50 cents.

TO OUR CANADIAN FRIENDS.—We shall continue to furnish the FARMER to our Canadian subscribers free of American postage.

Notices of New Books, Periodicals, &c.

LIVES OF ATROCIOUS JUDGES: Lives of Judges infamous as Tools of Tyrants and Instruments of Oppression. Compiled from the Judicial Biographies of Lord JOHN CAMPBELL, Lord Chief Justice of England. With an Appendix containing the case of PASSMORE WILLIAMSON. Edited, with an Introduction and Notes, by RICHARD HILDRETH. New York and Auburn: MILLER, ORTON & MULLIGAN.

This work is executed in good style, and considering the sources from which its contents are drawn, must prove reliable and valuable. The appendix relates to a case with which we are all familiar, and which deserves the attention of every intelligent citizen. Our country as yet has furnished comparatively few examples of judicial corruption, and we sincerely pray that this republic may never witness within its borders similar examples of "wickedness in high places" as is here recounted. For sale by D. M. DEWEY, Rochester.

THE PRINCE OF THE HOUSE OF DAVID: or, Three years in the Holy City; being a series of the Letters of ADINA, a Jewess of Alexandria sojourning in Jerusalem in the days of Herod, addressed to her father, a wealthy Jew in Egypt, and relating as by an eye witness all the scenes and wonderful incidents in the life of Jesus of Nazareth. Edited by the Rev. Professor J. H. INGRAHAM, Rector of St. John's Church, Mobile. New York: DANA & CO.

It was the editor's hope, in writing these letters, to tempt the daughters of Israel to read what he wrote, and receive and be convinced by the arguments and proofs of the divinity of Christ as here presented. ADINA, the writer, a Jewess, is assumed to have been a resident of Jerusalem during the last four years of our Saviour's life; and to have written to Alexandria, to her father, numerous letters, describing all events of interest, and especially giving a minute narrative of the wonderful events in the life of Christ whom she daily saw. For sale by E. DARROW & BRO., Rochester.

SUMMER VACATION ABROAD. By Rev. F. DE W. WARD. Rochester: E. DARROW & BRO.

The above is the title of a 12mo. work of about 300 pages just issued in this city, and will be found to be extremely entertaining and instructive. It is a record of travels through the most interesting portions of Europe; and as its author is a man of much experience, and both an earnest Christian and a ripe scholar, his statements and opinions may be received with entire confidence.

THE LONDON, EDINBURGH, NORTH BRITISH AND WESTMINSTER REVIEWS, and BLACKWOOD'S MAGAZINE are republished by LEONARD SCOTT & CO., No. 54 Gold street, New York, and can be had singly at \$3 each per annum, or any two for \$5, or the whole for \$10. We cannot recommend these well known British periodicals too highly.

KENA, THE FOREST PRINCESS: or, Pilgrimage of the Three Wise Men to Bethlehem. A legend of Germany in the olden time. Translated from the German of GUSTAV NIEBRITZ, by Mrs. H. C. CONANT. Rochester: E. DARROW & BRO.

A beautiful moral tale of the time of the Roman Emperor AUGUSTINE, and exceedingly interesting to youth.

GLANCES AND GLIMPSES: or, Fifty years Social, including twenty years Professional Life. By HARRIET K. HUNT, M. D. Boston: JOHN P. JEWETT & Co.

An interesting autobiography. For sale by D. M. DEWEY, Rochester.

"ZAIDEE, A ROMANCE," from *Blackwood's Magazine*, has been published in book form by JOHN P. JEWETT & Co., Boston. It is, beyond compare, the best work of the kind we have read for a long time. D. M. DEWEY, Rochester, has it.

DEVON HERD BOOK, VOL. III.—The American Editor of the Devon Herd Book, SANFORD HOWARD, Esq., editor of the *Boston Cultivator*, gives notice that he is ready to receive lists of animals to be inserted in the third volume, issued during the present year.

AM. HERD BOOK, VOL. III.—It is the intention of L. F. ALLEN, Esq., to prepare another volume of the American Short-horn Herd Book. Breeders can obtain a circular giving all necessary information, by addressing L. F. ALLEN, Black Rock, N. Y.

Inquiries and Answers.

(WM. AYRES, Burlington, Ind.) The price of Dadd's Cattle Doctor is \$1.00.

(HENRY M. SELDEN, Haddam Neck, Conn.) Cannot furnish FOWLER & WELLS' Books.

(J. C. C., Zanesville, Ind.) Probably R. L. ALLEN, 119 and 121 Water street, New York, has Italian rye grass seed for sale.

(J. N. S., Marion, O.) We believe the Bedford or Woburn breed of hogs has become extinct. We know of no breeder in this country or England that has them pure.

TO DRY COWS.—In answer to the inquiry in the October number, I would give the following method of drying cows, and which I have practiced with success in weaning colts. Milk only for two or three times, and each time take hog lard, as hot as you can bear it, and rub it on the bag. If this is well done a few times, the cow or mare will go perfectly dry, without leaving any hard lumps in the bag, or injuring the animal in any way. H. R.—*Mercer Co., Pa.*

[The lard acts only as a mollient. It is imperfect milking, or drawing out only a portion of the milk, and at long intervals, which checks the secretion, and soon causes the milk to cease altogether.—ED.]

(W. PRINCE.) **SHOEING LARGE OXEN.**—You are not alone in having your "heavy yoke of cattle lamed by shoeing." We have heard many such complaints. Considering the difficulty of shoeing cattle, and the liability to injury, you may well question the advantage of the process. A correspondent of the *Maine Farmer* says:

"One error in shoeing oxen is in the length and shape of the shoes." "If the shoes are long and crooked," he says, "they of course cause the weight of the ox to bear on the inner edge of the shoe or center of the foot, causing the hoofs to cant in an unnatural position. This may do for small, light cattle, but with heavy oxen it is quite different."

"In shoeing large oxen there should be one inch of the toe or forward end of the hoof left bare—and be sure that the shoe sets flush with the outside of the hoof. Then the heel of the shoe should not be crooked or turned in too much; but our blacksmiths are apt to be in too great a hurry, and if a shoe comes within hailing distance of a good fit they must nail it on in preference to selecting a better."

(H. L.) The *Boston Cultivator*, edited by SANFORD HOWARD, Esq., is the "best authority on stock matters" in this country. As a general agricultural and horticultural paper, the *Country Gentleman*, published at Albany, N. Y. has no superior in this or any other country. The *New England Farmer*, edited by SIMON BROWN, Esq., is also a most excellent paper. Either of these weekly papers can be had at \$2 per annum.

(J. W., Waukesha, Wis.) BASKET WILLOW.—The low, swampy soil you describe will be the best kind of land for the osier, after it is properly drained. Willow culture will be quite as profitable in the West as in the Eastern States. At present, in St. Louis and other western cities, willows bring two cents per lb. more than in New York. There is annually imported into this country from France and Germany about fifty thousand dollars worth of willows. There is no reason why we should not grow at least all the willows we need for home consumption. The expense and labor of peeling have been the great drawbacks to the cultivation of willows in this country. Mr. COLBY, of Vermont, has invented a machine, which, judging from the model he has shown us, will do the work better than it can be done by hand, and at a cost not to exceed \$10 per ton.

After the second year, you may expect two tons per acre, and possibly three tons. Peeled willows are now worth \$150 per ton. The demand we believe will continue equal to the supply.

ASHES IN MANURE HEAPS.—I should like to inquire whether ashes, either leached or unleached, are a benefit or a damage when thrown into a manure heap. S. M. BLISS—*Corydon, Pa.*

Unleached ashes would have a tendency to drive off the ammonia, and would thus be injurious. Leached ashes would do no harm.

WIND MILL, &c.—What is the price of the Vermont wind mill—one that will do the work of two horses? (1)

Where and at what price can a pair of full blooded Yorkshire pigs be obtained? (2) V. L. COLLIER, JR., *Gallatin, Tenn.*

(1) The price of a Vermont wind mill of two horse power is \$150. The agents, FOWLER & WELLS, also offer "a reasonable reduction to those who are first to purchase a mill in their own town."

(2) Address HUNGERFORD & BRODIE, Rural Hill, Jefferson county, N. Y.

BROKEN HORN ON CATTLE.—One of my cows has knocked off one of her horns. Can you give me a remedy. W. JONES.

The *Homestead* recommends the following:

"Make a bag of coarse strong cloth of suitable size and shape to cover the remaining core, fitting rather loosely, and run a large string into it near the top; pour in some tar, slightly warm in cold weather, slip it on the stump and secure it with the cord passing around the base of the other horn. This will stop the bleeding, protect the wound, and no farther attention will be necessary. In a few months the bag may be removed and no harm will result, except in appearance, from the accident."

WIRE FENCE, &c.—Please inform me what number of wire is best for a fence, till hedge can be raised; and how many pounds of wire will make a fence one mile in length by using four wires in the fence, or one wire four miles long; and what kind of fixings is used for stretching the wire, and the best plan for fastening the wire to the post; also, if posts set twenty feet apart is close enough.

Will Usage orange make the best hedge for fence? How should seed be prepared before planting in order to sprout quick? How would the barberry answer for a yard hedge, and where can the seed be obtained? JOHN FRANK—*Webster City, Iowa.*

We should be glad of the experience of our readers on these points.

SOUTHERN PEA.—I noticed in the June number of the *Farmer* an account of the southern pea, as being very good for fodder and for enriching the land. I should like to obtain some of the seed. Can you inform me where I can get a bushel of the seed. HENRY C. KNAPP—*Lanesville, Conn.*

You can probably get the southern pea from R. L. ALLEN & Co., 189 and 191 Water street, New York. We saw some southern peas grown on Long Island last summer which were very good. As a general thing we should not expect it to do well further north than Philadelphia. Have any of our readers in the West used this pea, and with what success?

UNLEACHED ASHES FOR CORN.—Last spring I bought upwards of 100 bushels of unleached ashes, and put from a pint to a quart on a hill of corn, but left some rows in the middle and on each side without anything on them. I fully expected to see the corn where the ashes were put far outgrow the other, but to my surprise, and some little regret, I could not see a particle of difference during the whole summer. What was the cause; and do you think the ashes will manifest themselves next summer by giving a more vigorous growth to the corn. GEORGE CATTELL.

Probably your soil needs organic matter, especially ammonia, more than it does potash and the other mineral elements of plants; and as the ashes supplied only the latter, they did no good. Ashes may act in two ways, either by furnishing the mineral substances which enter into the composition of the plants, or by rendering available the organic matter of the soil. Now if the soil is destitute of organic matter on the one hand, or is not deficient of mineral plant food on the other, the ashes would do no good. Let us know whether the ashes do any good on the next crop.

Will you or some of your numerous practical readers please answer some or all of the following interrogatories:

1st. The easiest method of permanently destroying that great pest to my warm gravelly loam, the running blackberry vine.

2d. The best time to cut bushes to subdue them.

3d. The best and safest plan of applying lime to corn, where lime is dear and a distance to cart it.

4th. Whether it would pay to apply 100 lbs. of guano per acre to buckwheat on poor light land.

5th. I have a door yard in which I wish to set some trees. What kind of dwarf pears had I better get? I should like such as are early, and also thrifty and long-lived. What kind of grass will make the nicest and quickest sod? I want some that will be permanent. I have had to remove all the sod in leveling it.

6th. Will lucerne grow and do well in our climate? AN ORANGE COUNTY SUBSCRIBER

We hope our experienced correspondents will answer the above.

On poor, light land, Peruvian guano is an efficacious manure for buckwheat, unless the weather is too dry. Last summer Mr. HENRY SABIN, of Lee, Mass., showed us a field of buckwheat where he had sown 75 lbs. of Peruvian guano per acre. The whole field was guanoed except two strips twelve feet wide. The effect of the guano was most astonishing. The buckwheat was at least five times as good where the guano was used, as on these strips. On one land Mr. S. in sowing went over the land twice, thus giving it 150 lbs. per acre. Here the buckwheat was somewhat too heavy. The guano was mixed with equal parts of muck, sown broadcast and harrowed in with the seed. Mixing it with muck lays the guano dust, and renders it less unpleasant to sow.

The Madeleine, Doyenne d'Ete, Osband's Summer, Dearborn's Seedling, Tyson and Rostiezer are good varieties of summer pears. They are vigorous growers, and do well on the quince. They ripen in the order named, from the middle of July to the first of September. These six varieties will give you a constant supply of delicious pears for six weeks.

Of later, or autumn varieties, the Bartlett, Seckel, Flem-

ish Beauty, Louise Bonne of Jersey, White Doyenne Duchesse d'Angouleme, will furnish you a constant supply of autumn pears.

Red top, (*Agrostis vulgaris*), and white clover, (*trifolium repens*), will make a good sod. We have heard Kentucky blue grass recommended for this purpose, but have no experience with it. Timothy should not be used.

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

THE ANNUAL MEETING OF THE STATE AGRICULTURAL SOCIETY

WILL be held at the Capitol on the second Wednesday (13th) of February. Premiums will be awarded on Farms, Essays, Grain and Root Crops, Grains and Seeds, Butter, Cheese, Dairying, Irrigation, Winter Fruits, &c. B. P. JOHNSON, Secretary.
AGRICULTURAL ROOMS, ALBANY, Jan. 1, 1886. Feb.—1st.

SEEDS.

VEGETABLE AND FLOWER SEEDS.

I HAVE just imported from France, and now offer for sale the following list of Seeds. They embrace the very best and rarest sorts, and are recommended as quite superior.

VEGETABLES.

CAULIFLOWER—Early Paris, Large Lenormand.
CABBAGE—Superfine Early York, Small Early Savoy, Large Late Dutch Drumhead, Winningstadt.
BROCOLI—Early White.
CELERY—White Solid.
CELERYAC, or Turnip-rooted Celery.
CARROT—Early Short-horn.
RADISH—Rose Winter, Early Oval, Long Scarlet.
EGG PLANT—Long Purple, White.
Zucchini—White above ground.
ONION—Giant or Round Madeira, White Lisbon, Blood Red.
CUCUMBER—Early White.
SPINAGE—Very Large English.
MUSKMELON—Nutmeg.
WATERMELON—Spanish.
PEPPER—Common Red.

FLOWERS.

Balsam, double mixed.
Lathyrus odoratus.
Aster Chinensis pyramidalis.
Portulacca, mixed varieties.
Phlox Drummondii.
Petunia, hybrid varieties.
Nemophila insignis.
" maculata.
Barbarea aurea.
Convallaria major.
" minor.
Mirabilis jalapa.
Calandrinia elegans.
Campanula var.
Dianthus Chinensis flore pleno.
Centauria var.
Ipomoea quamoclit.
Lupinus, mixed varieties.
Clintonia pulchella.
Coreopsis varieties.
Dracopis Moldavicum.
Echtholzia purpurea.
Echtholzia Californica.
Gentiana amarella.
Cheiranthus annuus.
Godetia rubicunda.
Xeranthemum.
Kaulfussia Anemelloides.
Lamarckia aurea.
Lavatera trimestris rosea.
Leptochloa densiflorus.
" Androsacea.
Papaver, mixed varieties.
Delphinium, "
Scabiosa atropurpurea.
Schizanthus pinnatus.
" Grahami.
" retusus.
" retusus albus.
Mimosa pudica.
Tagetes patula.
" variegata.
Candytuft, many varieties.
Zinnia elegans.
Mimulus Cardinalis.
Amaranthus, red globe.
" orange.
" white.
Aquilegia Canadensis.
" hortensis.
Digitalis purpurea.
Antirrhinum, mixed varieties.
Viola tricolor grandiflora.
Penstemon, several varieties.
Dianthus caryophyllus.
Cheiranthus incanus.

And many other sorts which we have not room to mention in detail.

These seeds are neatly put up and marked, and are offered at the rate of sixteen sorts for one dollar, and will be forwarded by mail, postage paid, to any part of the United States.

Orders should be addressed to JAMES VICK,
Proprietor of the Genesee Farmer.

CHINESE OR JAPAN POTATO—DIOSCOREA BATATAS

W. M. R. PRINCE & CO., Flushing, N. Y., can supply immediately, for cash remittances, genuine sound Dioscoreas, in packages, at \$5 and \$10 per package, in sealed tin cases, which go safely by Express; or they will retain them subject to order to be sent in March, either dry or growing in small pots. Feb.—1st.

CRANBERRY PLANTS.

UPLAND AND LOWLAND VARIETIES.

BELL, or egg shaped is, the best variety to cultivate on 'damp' wet, or poor swampy land, where nothing else will grow, often producing from 200 to 300 bushels per acre.

UPLAND CRANBERRY

Are more prolific, but smaller and superior fruit. They grow on poor, cold, unproductive land and hill sides in Canada. Plants of this variety will be for sale in May.

Also, NEW ROCHELLE BLACKBERRY Plants.

Circulars relating to culture, price, &c., will be forwarded to applicants by enclosing a postage stamp.

For sale by

Feb.—1st. Dealer in Trees, Plants, &c., New Haven, Conn.

TO NURSERYMEN.

THE Subscribers offer for sale the following articles:

50,000 Mazzard Cherry Stocks,	.....	\$5 per 1,000
20,000 Horse Plum Seedlings,	.....	12 per 1,000
75,000 Grafted Apple Trees, (one year),	.....	25 per 1,000
75,000 Grafted Apple Roots,	.....	10 per 1,000
50,000 Osage Orange, (2 and 3 years),	.....	\$5 and 6 per 1,000
30,000 American Arbor Vitae,	.....	\$25 to 35 per 1,000
2,000 Hybrid Perpetual Roses,	.....	18 per 100

Also on hand a good assortment of well grown Trees for Orchard, Garden, and Ornamental planting.

30,000 Viminalis Willow Cuttings—\$2.50 per 1,000.

Feb.—3rd. W. T. & E. SMITH,
Geneva Nursery, N. Y.

FARM FOR SALE.

140 ACRES of land, situated in the town of Victor, Ontario county, one mile and a half from Fisher's Station on the New York Central Railroad, and three miles from the village of Victor. One hundred and fifteen acres under cultivation, twenty five timber. Soil, gravelly loam; well watered by never failing streams, springs, wells, fish pond, &c. Some 500 fruit trees of the most choice varieties; two good commodious frame houses; a large barn with basement, with new horse barn, and other out-buildings. Ill health induces the subscriber to part with one of the best farms in one of the pleasantest locations in Western N. Y. Part of the purchase money can remain on credit if desired.

VICTOR, N. Y., Jan. 18, 1886.

P. PARKS.

Feb.—1st.

CHICAGO AGRICULTURAL WAREHOUSE & SEED STORE

Warehouse and Sale Room 45 Franklin street, between John and Randolph streets.

THE subscriber, formerly connected with the "Albany Agricultural Works, Albany, N. Y.," has opened a depot in Chicago where may be found at all times a complete assortment of

FARM MACHINERY AND IMPLEMENTS,

of most approved kinds: also a full stock of Garden & Field Seeds Full Catalogues furnished gratis on application.

Jan.—2d

HENRY D. EMERY.

AGENTS WANTED!!

MAKE MONEY WHEN YOU CAN.

THE Subscribers desire to procure the undivided time of an Agent in every County of the United States. Efficient and capable men may make several dollars per day, without risk or humbuggery of any kind. Full particulars of the nature of the business will be given by addressing the subscribers, and forwarding One Post Office Stamp to prepay postage.

Feb.—1st.

FUREY & CO., Philadelphia, Pa.

TOMPKINS' COUNTY KING.

SCIONS or Trees can be furnished of the above variety, cultivated from bearing trees. Also, other new varieties, such as Wazener, Primate, &c. Also, scions of all the leading varieties. Also, a large quantity of the Viminalis Willow, for the basket trade. Cuttings furnished of the above variety for \$2.50 per 1,000.

Feb.—3rd.

W. T. & E. SMITH,

Geneva Nursery, N. Y.

LITTLE GIANT CORN AND COB MILL.

THIS is doubtless one of the most important inventions of modern times for the farmer and stock grower. Its simplicity and durability recommend it to every one desiring such a machine. It occupies but little space, and is easily operated by any farm hand. Prices from \$10 to \$65. For sale at the Chicago Agricultural Warehouse and Seed Store, 45 Franklin street, Chicago, Ill.

Jan.—2d.

HENRY D. EMERY.

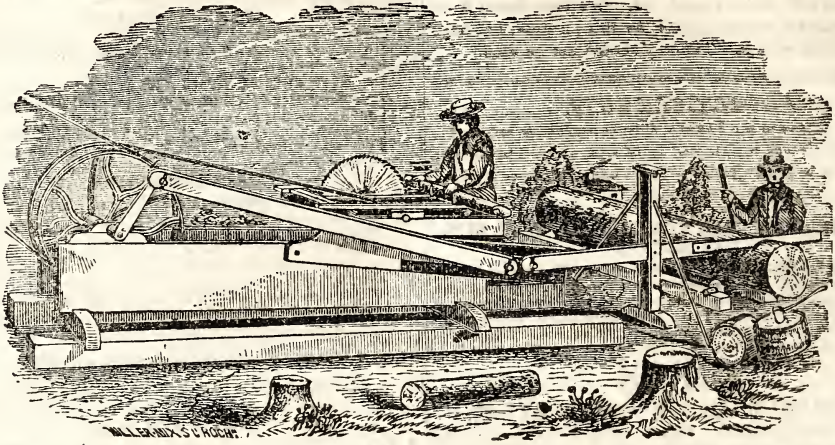
NEW PATENT WIND-MILL.

OF superior and simple construction, and easily applied to the driving of all kinds of farm machinery, shop use, etc. Together with all articles usually found in Agricultural Warehouses. Garden and Field Seeds, OSAGE ORANGE and LOCUST SEED and PLANTS. 45 Franklin street, Chicago, Ill.

Jan. 2d

HENRY D. EMERY.

HALLOCK'S AGRICULTURAL WAREHOUSE AND SEED STORE, ROCHESTER, N. Y.



CROSS CUT AND CIRCULAR SAW MILL COMBINED.

THIS Machine received the First Premium at the New York State Fair, at Elmira, 1855.

The above cut represents a new and useful Machine recently perfected by the Subscriber. It is made strong and durable, and is very simply constructed, requiring little skill to operate it, and is not liable to get out of order. It can be driven by any of the ordinary Horse Powers used in Threshing. The saws can be both used at one time, or separately, as may be desired. In sawing wood, the limbs and small trees can be cut with the circular saw, while the cross cut is sawing the bodies of the larger trees; it is useful in sawing barrel heading, stave and shingle bolts, slitting fence stuff, boring caps, and a variety of other purposes for which such saws are employed. The prices are as follows, delivered at the several places of shipment in Rochester.

Combined Machine, with one Circular and one Cross Cut Saw,.....	\$75 00
Single Machine, with one Cross Cut Saw,.....	35 00
Double " " two Saws,.....	50 00
Cap Augur Attachment, extra,.....	
Circular Saw and Table,.....	40 00
Emery's Patent Railroad Horse Power for two horses,.....	120 00
" Threshing Machine and Separator,.....	40 00
Hall's eight or ten Horse Power,.....	110 00
Slitting arrangement, from \$7 to \$10, according to the size of the Saw.	

The combined Saw Mill is capable of cutting from 30 to 40 cords of stove wood per day, if properly driven. It is warranted to be well made, of good materials, and to work as represented.

CERTIFICATES.

WEBSTER, January 4, 1855.

MR. E. D. HALLOCK—*Dear Sir*: The Cross Cut and Circular Saw Mill combined, which I purchased from you, works to my entire satisfaction, and I can cheerfully recommend it as a very useful and labor-saving machine. It can be operated with three or four horses on the sweep power, in running either saw singly, and five or six horses will furnish sufficient power to run both at the same time, sawing wood as fast as the same number of men can furnish it to the machine.

Very respectfully yours,

SHERMAN FERRIS.

FEMEBROKE, September 12, 1855.

MR. HALLOCK: The combined Saw Mill I bought of you works first rate. I attached it to Emery's two horse power, which runs a single saw as fast as two men can get the wood off. I am satisfied, with sufficient power, the combined mill can cut all the wood in a day that any man could desire.

Yours, &c.,

E. D. LONG.

The Subscriber is sole agent in Rochester for the sale of EMERY'S CELEBRATED HORSE POWERS, Threshers and Separators, and other machinery manufactured by Emery Brothers, at Albany, N. Y. Also, Circular and Cross Cut Saw Mills, Feed Mills, (Little Giant and others,) Hay, Straw and Stalk Cutters, Corn Shellers, and other machines adapted to Horse Powers. He also keeps constantly on hand a full supply of Plows Harrows, Cultivators, Hay and Straw Cutters for hand use, Reaping and Mowing Machines, Grain Drills, Hand Cider Mills, Churns, Cheese Presses, Spades, Shovels, Manure Forks, Hoes, all of the most approved patterns. Having Tools of all descriptions; Budding and Pruning Knives, and a great many other useful articles for farm and garden operations.

Also, GRAIN, FIELD and GARDEN SEEDS in their seasons, and warranted good and true to their names.

He manufactures HAND SEED DRILLS for sowing all kinds of small seeds, such as carrots, beets, onions, &c. Also, Clover and Timothy Seed Sowers for hand use. The one price system is strictly adhered to, and all articles warranted as represented.

All machines furnished at manufacturers' prices, freight being added on heavy articles only.

* Orders by letter or otherwise promptly attended to.

For further particulars address

Feb.—1t.

E. D. HALLOCK, Rochester, N. Y.

RARE AND VALUABLE SEEDS.

THE Subscriber will forward to any readable address, packages of the following seeds by mail, free of postage, or postage paid, on the receipt of price, or the entire list in one envelope, for \$1 in gold, a current bank bill, or postage stamps.

	Cents.
Nepaul Barley, bear's loss and skinless, per package,.....	25
Biennial Rye, two crops from one seed, ".....	12½
Pure Poland Oats, forty pounds to the bushel,.....	12½
Orange Watermelon, rind peels off like the orange,.....	25
Ice Cream or White Sugar Melon, of Alabama,.....	25
Chinese Hoo-sung, substitute for Asparagus,.....	25
Five Foot Cucumber, 5 feet long!.....	12½
Negley's Seeding Cucumber, new and fine,.....	12½
Cylindrical Pumpkin, 2 feet long,.....	12½
Glass Melon, very small, for preserves,.....	12½

N. B.—A Descriptive Catalogue, embracing many other varieties, will be sent on application by mail.

SEND FOR THE CATALOGUE.

Address, (Free.)

I. W. BRIGGS, P. M.

County Line Farm, West Macedon, Wayne Co., N. Y.

Feb.—4t.

SYRACUSE NURSERIES.

DISSOLUTION.

THE copartnership heretofore existing between Alanson Thorp, Wm. Brown Smith, John C. Hanchett, and Alfred Fahnestock, under the firm name of Thorp, Smith, Hanchett & Co., is hereby dissolved. Dated Syracuse, January 17th, 1856.

ALANSON THORP,
WM. BROWN SMITH,
JOHN C. HANCHETT,
A. FAHNSTOCK.

The business of the Syracuse Nurseries will be continued by the subscribers, under the firm of Thorp, Smith & Hanchett, to whom the property and effects of the late firm have been transferred, and who are duly authorized to settle all claims or demands in favor of or against said firm.

ALANSON THORP,
WM. BROWN SMITH,
J. C. HANCHETT.

Feb.—1t.

EMERY'S PATENT PORTABLE HORSE POWERS,

THRESHERS, Separators, Saw Mills, Corn Shellers, Feed Cutters, etc., for sale at 45 Franklin street, Chicago, Ill.

Jan.—2t.

HENRY D. EMERY.

BOOKS FOR THE FARMERS!

FURNISHED BY THE PROPRIETOR OF GENESEE FARMER.

- The Cow, Dairy Husbandry, and Cattle Breeding. Price 25 cts.
 Every Lady her own Flower Gardener. Price 25 cents.
 The American Kitchen Gardener. Price 25 cents.
 The American Rose Culturer. Price 25 cents.
 Prize Essay on Manures. By S. L. Dana. Price 25 cents.
 Skinner's Elements of Agriculture. Price 25 cents.
 The Pests of the Farm, with directions for extirpation. Price 25 cents.
 Horses—their Varieties, Breeding, Management, &c. Price 25 cents.
 The Hive and Honey Bee—their Diseases and Remedies. Price 25 cents.
 The Hog—its Diseases and Management. Price 25 cents.
 The American Bird Fancier—Breeding, Raising, &c. 25 cts.
 Domestic Fowls and Ornamental Poultry. Price 25 cents.
 Chemistry made Easy for the Use of Farmers. Price 25 cts.
 The American Poultry Yard. The cheapest and best book published. Price \$1.
 The American Field Book of Manures. Embracing all the Fertilizers known, with directions for use. By Browne. \$1.25.
 Buist's Kitchen Gardener. Price 75 cents.
 Stockhart's Chemical Field Lectures. Price \$1.
 Wilson on the Cultivation of Flax. Price 25 cents.
 The Farmer's Cyclopaedia. By Blake. Price \$1.25.
 Allen's Rural Architecture. Price \$1.25.
 Philp's Bee Keeper's Chart. Illustrated. Price 25 cents.
 Johnston's Lectures on Practical Agriculture. Paper, price 25 cents.
 Johnston's Agricultural Chemistry. Price \$1.25.
 Johnston's Elements of Agricultural Chemistry and Geology. Price \$1.
 Randall's Sheep Husbandry. Price \$1.25.
 Miner's American Bee-Keeper's Manual. Price \$1.
 Dadd's American Cattle Doctor. Complete. Price \$1.
 Fessenden's Complete Farmer and Gardener. 1 vol. Price \$1.25.
 Allen's Treatise on the Culture of the Grape. Price \$1.
 Youatt on the Breeds and Management of Sheep. Price 75 cts.
 Youatt on the Hog. Complete. Price 60 cents.
 Youatt and Martin on Cattle. By Stevens. Price \$1.25.
 The Shepherd's own Book. Edited by Youatt, Skinner and Randall. Price \$2.
 Stephens's Book of the Farm; or Farmer's Guide. Edited by Skinner. Price \$4.
 Allen's American Farm Book. Price \$1.
 The American Florist's Guide. Price 75 cents.
 The Cottage and Farm Bee-Keeper. Price 50 cents.
 Hoare on the Culture of the Grape. Price 50 cents.
 Country Dwellings; or the American Architect. Price \$6.
 Lindley's Guide to the Orchard. Price \$1.25.
 Gunn's Domestic Medicine. A book for every married man and woman. Price \$3.
 Nash's Progressive Farmer. A book for every boy in the country. Price 50 cents.
 Allen's Diseases of Domestic Animals. Price 75 cents.
 Saxton's Rural Hand-books. 2 vols. Price \$2.50.
 Beattie's Southern Agriculture. Price \$1.
 Smith's Landscape Gardening. Containing hints on arranging Parks, Pleasure Grounds, &c. Edited by Lewis F. Allen. Price \$1.25.
 The Farmer's Land Measurer; or Pocket Companion. Price 60 cents.
 Buist's American Flower Garden Directory. Price \$1.25.
 The American Fruit Grower's Guide in Orchard and Garden. Being the most complete book on the subject ever published.
 Quinby's Mysteries of Bee-Keeping explained. Price \$1.
 The Fruit Garden. P. Barry. Price \$1.
 American Fruit Culturist. J. J. Thomas. Price \$1.
 Downing's Fruits and Fruit Trees of America. Price \$1.50.
 Cole's American Fruit Book. Price 50 cents.
 The Stable Book. Stewart. Price \$1.
 Lindley's Horticulture. Downing. Price \$1.25.
 Munn's Practical Land Drainer. Price 50 cents.
 Ladies' Companion to the Flower Garden. Downing. Price \$1.25.
 Norton's Elements of Scientific Agriculture. Price 75 cents.
 Landscape Gardening, Parks, and Pleasure Grounds. Smith. Price \$1.25.
 Rural Annual and Horticultural Directory. Price 25 cents. Do. in cloth, 50 cents.
 The above will be sent free upon receipt of price annexed.

FARM FOR SALE—A GREAT BARGAIN.

A farm of 282 acres, four miles south-west of Geneva, Ontario county, near the Geneva and Rushville plank road, and about three miles from the Gorham station of the Canandaigua and Elmira railroad, will be sold for the low price of *fifty dollars* per acre, to close up an estate. It is situated in one of the most beautiful and fertile sections of Western New York. The farm is under excellent cultivation, well fenced and with good buildings, and has 80 acres of woodland. It will be divided into two farms if desired. Terms easy and title perfect. For further particulars enquire of D. C. Mann, at the office of the Rochester Daily American, E. H. Hurd, Esq., Geneva, or C. S. Brother, on the premises. Jan.—If

ICHABOE GUANO.

JUST received by the brig Wave Spirit, direct from the Ichaboe islands, a cargo of this superior Guano (which is the first cargo arrived since that brought by the ship Shakespeare, in 1845). This Guano is now landed in excellent order, and will be sold in lots to suit purchasers. Samples and analyses will be sent by addressing the agent. As the quantity is small, early application will be necessary. Farmers who cannot remove what they desire, may have it remain on storage until April 1st, at 18½ cents per ton per month, which includes insurance.

Price, \$64 per ton of 2,000 lbs.

A. LONGETT, Agent.

Nov.—11.

34 Cliff st., corner of Fulton, New York.

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PREMIUMS FOR 1856!

We ask the attention of our friends everywhere to the *Premiums* we offer for the coming year. There is no better way to procure good agricultural reading than by obtaining subscribers for the *Genesee Farmer*.

1. To every person who sends us a club of eight subscribers at our regular terms, (*three shillings each*) we will give one copy of the *Rural Annual* for his trouble.

2. To every person who sends us SIXTEEN subscribers at our club terms of *three shillings each*, one extra copy of the *Farmer* and one copy of the *Rural Annual*.

3. To every person sending us TWENTY-FOUR subscribers, as above, two copies of the *Rural Annual*, and one extra copy of the *Farmer*, or, any agricultural work valued at 50 cents, *postage paid*.

4. To any person ordering TWENTY-TWO copies of the *Farmer*, three copies of the *Rural Annual* and one extra copy of the *Farmer*, or, any agricultural book valued at 75 cents, *postage paid*.

5. For FORTY-four copies of the *Rural Annual* and one extra copy of the *Farmer*, or, any agricultural book valued at \$1, *postage paid*, or, four extra copies of the *Farmer*.

6. For FORTY-EIGHT, five copies of the *Rural Annual* and one extra copy of the *Farmer*, or, any agricultural book valued at \$1.25, *postage paid*, or, five extra copies of the *Farmer*.

For larger numbers, books or papers given in the same proportion.

☞ To save expense to our friends, we pay the postage on all these works, and persons entitled will state what they wish sent, and make their selections when they send orders; or if their list is not complete, if wished, we will delay sending until the club is full.

Premiums for the Greatest Number of Subscribers.

In order to excite a little competition among our friends everywhere, as well as to reward them for their voluntary labors in behalf of our journal, we make the following liberal offer. Those who do not get the premiums offered below are sure of the above, so that we have no blanks.

1. FIFTY DOLLARS, in Agricultural Books, to the person who shall send us the largest number of subscribers, at the club price, before the 15th day of April next, so that we may announce the successful competitors in the May number.

2. THIRTY DOLLARS, in Agricultural Books, to the person who shall send us the second highest list, as above.

3. TEN DOLLARS, in Agricultural Books, to the person who shall send us the third highest list, as above.

Our object in offering books is to increase their circulation throughout the country. Those who prefer nursery trees, plants, &c., can be accommodated; and if any prefer the money, we will make arrangements accordingly.

Clubs are not required to be at one post office or sent to one address. We send wherever the members of the club may desire.

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY.—We have just published a very neat little book of 120 pages with the above title. It is devoted to the *Orchard*, the *Vineyard*, and the *Flower Garden* and *Lawn*: and we shall only express the opinion of all who have seen it, when we say that it is the best little work yet published on the subjects of which it so plainly and carefully treats. Anxious to make the circulation of this useful little work as general as possible, we make the following proposition, to those who form clubs for the *Genesee Farmer*: For FOUR DOLLARS we will send *eight copies* of the *Genesee Farmer* and *eight copies* of the *Rural Annual*. For EIGHT DOLLARS we will send *sixteen copies* of the *Genesee Farmer* and *sixteen copies* of the *Rural Annual*, and one extra copy of each for the person who gets up the club.

Any person sending us \$3 for a club of eight of the *Genesee Farmer* shall receive one copy of the *Rural Annual* for his trouble.

The Practical and Scientific Farmer's Own Paper.

THE GENESEE FARMER,

A MONTHLY JOURNAL OF

AGRICULTURE AND HORTICULTURE,

ILLUSTRATED WITH NUMEROUS ENGRAVINGS OF

Farm Buildings, Animals, Implements, Fruits, &c.

VOLUME XVII. FOR 1856.

IN issuing a prospectus for the Seventeenth Volume of the *Genesee Farmer*, the publisher flatters himself that it is too widely known, too extensively circulated, and too well read, to render it necessary to state at length the design of the work. Those who read the *Farmer* are the best judges of its value, and those unac-

quainted with it are requested to examine its pages. He will only say that for the year 1856 he will furnish a paper that for *size*, *beauty*, and *ability*, will not be excelled in this country.

The new volume will commence on the first of January, and will be printed on NEW TYPE and SUPERIOR PAPER, and each number will contain about ONE-THIRD more reading than at present. Each monthly number will consist of THIRTY-TWO large pages, making a volume of 384 pages, with several hundred engravings, (with title page, index, &c., suitable for binding), at the close of the year. No one would sell the volume at the end of the year for its cost.

Our Illustrations are NUMEROUS, APPROPRIATE, and EXPENSIVE, consisting of Farm Buildings, Improved Implements, Domestic Animals, Choice Fruits, Flowers, Shrubs, &c., &c.

We number among our Contributors hundreds of the best practical Farmers in the country, and our readers have through our pages, the benefit of their wisdom and experience. No thinking man can read any number we issue, without receiving some useful hint in regard to the management of Crops, Stock, or the Orchard, of more value than the price of the volume. Our large circulation enables us to furnish a paper for three or four shillings equal, at least, to the best in the country for value and beauty.

An earnest advocate of improvement of both the MIND and the SOIL, the FARMER seeks to advance the rural interests of the country, and elevate the profession of Agriculture to its proper position. To accomplish this, it has labored long and faithfully, and not without some success. It is one of the oldest, and its position as the CHEAPEST, and at least one of the BEST AGRICULTURAL JOURNALS in the country is fully established, and we confidently ask for it that support which it merits from the Farmers, Gardeners, and Fruit Cultivators of the United States. We invite all who feel the importance of sustaining this work, and extending its usefulness, not only to subscribe themselves, but to introduce it to the patronage of their friends.

Fifty Cents a Year, In Advance.

Five Copies for \$2; Eight Copies for \$3; and any larger number at the same rate.

☞ All subscriptions to commence with the year, and the entire volume supplied to all subscribers.

☞ Post-MASTERS, FARMERS, and all friends of improvement are respectfully solicited to obtain and forward subscriptions.

Subscription money, if properly enclosed, may be sent (post-paid or free) at the risk of the Publisher. Address

JAMES VICK,

November, 1855.

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EVERYBODY SHOULD HAVE A COPY.

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY.

CONTAINING directions for the preparation of the ground for the *Orchard* and *Fruit Garden*, planting, pruning, etc. Also plain directions for making and planting the *Lawn* and *Flower Garden*, and a *Catalogue of Nurserymen* in the United States, Canada, and Europe, etc. Illustrated with *Sixty Engravings*.

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CULTIVATION OF POTATOES.

JOHN HAXTON, in his Prize Essay on Light-land Farming, in the *Journal of the Royal Ag. Society*, recommends the following method of cultivating potatoes on dry sandy soils:

"The land is plowed and half dunged in winter cross-plowed and worked fine early in spring, then laid off into five and a half or six yard stretches by single furrow lines. Along these lines a half manuring, say six tons of manure, are deposited in small heaps. The land is then plowed, and the dung and potato sets placed in every third furrow. Three plows work after each other; four women, having each an equal length of land, place the sets, and an equal number, similarly placed, carry the manure from the heaps and spread it above. The next bout of the plows cover all up; and so the work proceeds with great regularity and expedition. About a week before the plants are expected to come to the surface, the land is well harrowed, which loosens and kills all surface weeds. The subsequent working consists in horse-hoeing, hand-hoeing, and earthing-up."

In our climate, plowing and dunging in the winter is out of the question. The same object, however, may be attained by plowing under a dressing of manure in the fall. The land could be "cross-plowed and worked fine early in the spring" equally well—and this is the best point in the process. The complete decomposition of the manure, and its thorough intermixture with the soil, can not be too highly recommended for potato-culture. The advantage of covering the sets with manure in this dry, hot climate, is somewhat doubtful. Coarse, unfermented dung would do more harm than good on sandy land in a dry season. Good compost, on the other hand, might help to keep the soil moist, beside furnishing the plants with appropriate food in a proper condition for direct assimilation. If, then, manure must be used, let it be well composted, or at least thoroughly decomposed.

But it seems to be the opinion of most cultivators, that manure applied directly to potatoes increases their liability to disease; while it is certain that unless the land is in good condition, a meagre yield only will be obtained. It should be the object of the potato grower, therefore, to make the land rich at least a year previous to planting.

To do this, we must first ascertain what manurial substances are most required by the potato. Those chemists who think the composition of the ash of a plant a correct indication of its manurial requirements, tell us that, as half the ash of potatoes is potash,

manures containing much potash, such as unleached ashes, should be used. We know, however, from the most conclusive experiments, that this deduction from chemical analysis is erroneous, as applied to wheat and turnips; and therefore we can have no confidence in it when applied to potatoes or any other plant. In fact, so far as we can judge from the experiments recorded, and from the general opinion of experienced farmers, manures rich in ammonia, rather than those abounding in potash, have the greatest effect in increasing the growth of potatoes. Rich ammoniacal hog-manure, Peruvian guano, &c., every one knows, have a great effect on potatoes. There can be no doubt that their action is mainly due to the ammonia they contain; for while the former contains a large quantity of potash and all other constituents of plants in addition to ammonia, the latter contains comparatively nothing else but ammonia and phosphate of lime. But phosphate of lime does little good on potatoes, and therefore the effect of guano must be attributed to the ammonia it supplies to the potato plant.

If, then, a large crop of potatoes is required, the soil must be made rich in ammonia; and fortunately there is no natural way of doing this without supplying to the soil all those inorganic elements which are indispensable to the growth of all plants.

Potatoes and wheat are the same in their leading manurial requirements. The previous crops, and treatment of the soil best adapted for the production of wheat, are also best adapted for the production of a large crop of potatoes, with this important difference: For wheat, the soil must be compact; for potatoes, as loose as possible: for wheat, putrescent manures are in many cases desirable; for potatoes, they are objectionable, as tending to increase the potato disease.

Of all plants cultivated in this country, none are so good to precede wheat as red clover. None enriches the soil so much for potatoes. But a tough clover sod, turned over immediately before planting, prevents, to a greater or less degree, that thorough after-working of the soil, with the horse and hand-hoe, which is essential to the production of a good crop of potatoes. To get the enriching advantages of the clover sod without this drawback, should be the aim of the potato-grower. How can this be best accomplished? Will some of our experienced farmers answer the question.

As will be seen from the above extract, the English plant potatoes in rows about two and a half feet apart, and one foot between the sets. A larger crop

unquestionably, can be obtained by so doing than by planting in hills, as is most commonly done in this country; but more labor is required to plant them, keep clean, dig, &c. An intelligent farmer, near this city, who has cultivated potatoes in rows for many years, and who is well satisfied that a much larger crop is obtained, abandoned the practice from the belief that the extra yield will not pay for the extra labor. Will not some of our correspondents give us their experience on this point?

Potatoes should be planted as early as the ground can be got into good condition. In the experiments of Mr. H. H. EASTMAN, of Marshall, Oneida county, N. Y., one plot, planted the 18th of May, gave 142 bushels per acre; another, planted the 23d of May, gave 131 bushels; and another, under similar condition, planted the 8th of June, gave only 100 bushels per acre. This was in 1852. The next year, similar experiments were made, with the following result: Those planted May 9th, gave 104 bushels; May 30th, 70 bushels; and June 18th, only 45 bushels per acre.

Harrowing the ground a few days before the plants are expected to break through, is practiced by many of the best farmers in this vicinity, with great advantage. It breaks the crust of the soil, and kills or checks the weeds, and thus greatly lessens the labor of hoeing. In harrowing, be careful not to turn too short, or some of the potato plants will be pulled up. With ordinary care, little damage need be anticipated. If a few plants are pulled up, the loss is nothing as compared with the advantages of killing the weeds, loosening the soil, &c.

CULTIVATION OF THE WHITE BEAN.

MR. LAWES has made a series of experiments on beans, the results of which have not as yet been published; we may say, however, that he finds, on a soil similar to that on which his wheat experiments were made, that beans are not materially benefited by an application of ammonia,—a manure which has an astonishing effect on the wheat crop. On the other hand, potash, which had no effect on the wheat, or indeed on any other crop he experimented on, proved beneficial on the beans. This is not the result of a single experiment, but of an extensive series carried on for several years.

We conclude from these experiments that wheat requires for the production of a good crop much more ammonia than the atmosphere, rain and dews supply; while beans, if supplied with the proper mineral substances, and a soil in the proper mechanical condition, can obtain from these natural sources nearly all the ammonia an average crop requires.

The same is true of peas.

It will appear strange that these crops, which contain *more than three times as much nitrogen as a crop of wheat*, should require much less ammonia (nitrogen) for their growth than wheat. Such, however, is the fact, and a more important one to the practical farmer is not to be found in the whole range of agricultural chemistry.

Another fact, brought out by Mr. LAWES' experiments on feeding animals, is important in this connection: while about one-half the food consumed by animals is passed off into the atmosphere by respiration, &c., and is lost to the farm, nearly all the nitrogen (ammonia) is found in the excrements—the loss

being principally carbonaceous matter, such as starch, sugar, oil, gum, &c.

It follows, then, that by growing beans, peas, &c., and consuming them by animals, and returning the manure to the land, the soil is made much richer in ammonia, the substance so much needed by wheat, corn, oats, barley, and the grasses.

The same is true of clover, vetches, and turnips, and probably of lupins and all leguminous plants.

Does it not then appear strange, that, considering the comparatively high price of beans, and the excellent opportunity they afford for cleaning the land, this crop is not more extensively and generally cultivated?

The English "horse-bean" thrives best on clayey soil, but the white bean commonly cultivated in this country prefers a rather sandy loam, and will yield a fair crop on sandy soils so poor as to produce scarcely any other crop. Although this is the case, beans by no means object to a better "pasture," and its cultivation is most profitable on soils of good quality, and in rotation with wheat and other cereals.

Relative to the culture and produce of this crop, the late Judge BUEL says:

"Beans may be cultivated in drills or in hills. They are a valuable crop, and with good care are as profitable as a wheat crop. They leave the soil in good tilth. I cultivated beans the last year in three different ways, viz: in hills, in drills, and sowed broadcast. I need not describe the first, which is a well known process. I had an acre in drills, which was the best crop I ever saw. My management was this: On the acre of light ground, where the clover had been frozen out the preceding winter, I spread eight loads of long manure, and immediately plowed and harrowed the ground. Drills or furrows were then made with a light plow, at the distance of two and a half feet, and the beans thrown along the furrows about the 25th of May, by the hand, at the rate of at least a bushel on the acre. I then gauged a double mold-board plow, which was passed once between the rows, and was followed by a light, one-horse roller, which flattened the ridges. The crop was twice cleaned of weeds by the hoe, but not earthed. The produce was more than forty-eight bushels by actual measurement."

Beans should always be cultivated in drills or in hills, in order to admit the free use of the horse and hand hoe. In Albany and Rensselaer counties, the bean is extensively cultivated. An old clover sod is turned under as soon in the spring as the ground is in good condition, and the surface afterwards well worked with a cultivator, harrow, &c. About the middle of May, plant in rows two and a half feet apart, and two feet apart in the rows, leaving about six plants in each hill. The best crop we ever saw was on a field of fifteen acres near Albany. Soil a sandy loam; corn the previous year. The beans were drilled in rows two and a half feet apart and ten inches apart in the drills. A horse cultivator was passed twice between the rows, set a little wide the second time so as to go nearer the plants. They were hand-hoed twice, hilling up slightly the last time. A shovel-plow passed between the rows after the first hand-hoeing and the second horse-hoeing, would lessen the labor of the last hand-hoeing, and prove otherwise advantageous.

In his Prize Essay on Practical Husbandry, in the last volume of the *Transactions of the New York State Agricultural Society*, W. C. WATSON, of Essex county, N. Y., says:

"Beans, as a field crop, have never received the consideration, in this country, due to their value for cultivation, or importance as an article of human sustenance. They are rarely cultivated as a separate crop, but are usually grown in connection with corn. Many intelligent farmers, however, object to this practice, alleging that the beans detract from the product of corn, and that the value of the former crop does not compensate for the deterioration of the latter.

"When beans are planted by hand, the operation is proverbially slow and laborious. This objection, which has been a decided and serious one, to the extensive cultivation of this crop, is now obviated, by the introduction of the planter. A man and horse, with this implement, may plant several acres in a single day, depositing and covering the seed with great accuracy, either in hills or drills. The planter should be so gauged as to cover the seed at least two inches in depth.

"Warm and light soils are the most favorable to the culture of beans. They do not flourish on very moist or tenacious earths. If the soil is too rich, they incline to a luxuriant, but barren growth of vines. With the aid of plaster, light sands, particularly on an inverted turf, often produce a good harvest of the small white bean. The rows should be placed at a distance of about two feet, so that the cultivator may conveniently operate between them. The hills stand from fifteen to eighteen inches apart. When planted in drills, the seed should be dropped about two inches asunder. [This is thicker seeding than we have ever seen practiced.] The common corn planter may be graduated to plant beans in either method, and at any distance. Five plants are sufficient for a hill, although it is advisable to deposit more seed, in order to provide for the ravages of worms and bugs.

"The worm and grub are formidable enemies to the bean, and it is difficult to guard against their attacks. Fall plowing, and an application of salt or lime to the soil before planting, and a top dressing to the young plant of charcoal dust, ashes and plaster, are all recommended as partial remedies. Late planting I regard as the best security against them. In hoeing, when their ravages appear, they should be carefully sought out and destroyed. Land of medium fertility affords the best and safest soil for the bean culture. They require industrious and careful tillage, and should be kept free from weeds, with the earth loose and fresh about them. Beans are sometimes sown broadcast, and plowed in, with favorable results. About two bushels of seed to the acre are required in this culture, which is attended, after planting, with no additional labor or expense, except the harvesting and storing the crop."

Early frosts often injure or destroy the crop if planted too early. A farmer from Orleans county, where probably more beans are grown than in any other county in Western New York, informs us that he sometimes plants as late as the first week in June, with good results. He thinks the crop for the last ten years has been nearly or quite as profitable as wheat, and since the prevalence of the wheat midge, much more so.

"But," says a wheat-grower at our elbow, "if those farmers who have suffered so much from the wheat midge should sow less wheat and more beans, will not the supply exceed the demand, and the price fall so low that their cultivation will be unprofitable?" The price may fall; but if it should, beans will pay to cultivate for feeding to sheep on any wheat farm in Western New York, so long as good mutton is in demand.

Some will object to this statement, but it must be recollected that the production of beans impoverishes the soil but little, and that the manure made from them is worth nearly *three times as much as* that from Indian corn.

IMPROVING PEATY SOILS.

THE best means of improving the texture of peaty soils is claying, but unfortunately clay-marl is seldom found in proximity to peaty soils. The next best material is sharp sand or gravel, (the latter is used with much success in New England,) which, when laid on the surface of grass, has the effect of causing the white clover to spring up with renewed vigor. As sand sinks very rapidly into peaty soils, it should never be plowed in, but merely harrowed and kept as near the surface as possible. The land should therefore be plowed very shallow for many years after an application of sand, in order to keep it as long as possible near the surface.

It has been supposed that barn-yard manure produces a weak straw on these soils, but HAXTON, in his Prize Essay on Light Land Farming in the *Journal* of the Royal Agricultural Society, details an experiment which seems to discountenance this idea. He says:

"The writer has found, by a rather long and extensive experience, that grain crops even on rich peaty soils are generally increased in quantity and quality by an application of farm-yard manure. The opinion that this sort of treatment would render the straw soft and liable to fall is very prevalent, but so far as the writer's experience goes the very opposite is the result. One instance may be mentioned as an illustration. A piece of deep black boggy land was sown with vetches, which were manured with dissolved bones and guano. The crop was a poor one, having been injured by hoarfrost in the early part of the summer. After the removal of the vetches one portion of the land was top-dressed with rotten rock—the rough brown sand of the amygdaloid rock of the trap formation—at the rate of 500 loads per acre. Another portion was manured with 12 loads of farm-yard dung, and the whole was sown with oats. The crop after the rotten rock was much root-fallen, and the straw was soft, while that after the dung was tall, stout, and yielded nearly twice as much grain. This is not mentioned to disparage the use of sand or gravel on peaty soils, as in the above case the rotten rock had too short time to act, but to show that an application of farm-yard manure, instead of softening the straw, had the effect of making it stiffer."

BE SYSTEMATIC.—Order is a necessary element in the success of every man, but in no class is its strict observance more requisite than with the husbandman. Show us a farmer who is orderly in the location, management, construction, preservation of his buildings, in the erection and maintenance of his fences, in the division of his farm into lots, in the selection, planting, and care of his fruit trees, in the preparation and cultivation of his soil and the putting in of his seed, in the rotation of his crops, in the management of his stock, in the purchase and care of his farming implements, in the preparation of his fuel, in the curing and marketing of his products, in short, one who is governed by these rules—"A time for everything, and everything in its time"—"A place for everything, and everything in its place"—and we will show you an intelligent, successful, prosperous and happy man.

PLOWING IN CLOVER ON CLAY SOILS.

A GENTLEMAN in this vicinity informs us that two years ago he broke up a heavy clay soil in mid-summer, turning under a fair crop of clover. The surface was afterwards harrowed and cultivated at intervals of a few weeks, in order to keep it free from weeds, and to ameliorate the soil and form a good seed-bed. It was sown to wheat in the fall, without another plowing. The crop was not an average, probably less than it would have been had the field been summer-fallowed; that is, broke up in the spring and plowed twice afterwards, with several harrowings, &c., during the summer. On plowing the field in the fall, after the wheat was harvested, he found to his surprise that the clover was nearly or quite as perfect as when plowed in. The stalks and leaves were not decomposed in the least.

What was the cause of this?

Heat, moisture, and oxygen, or atmospheric air, are the essentials of fermentation or decomposition. The compact nature of clay prevents, to some extent, the admission of air, and hence decomposition is retarded. It may be that, in the instance alluded to, the soil perfectly excluded the air, and that this hypothesis alone is sufficient to account for the phenomenon—a phenomenon which many farmers have witnessed.

The exclusion of the air, however, is not the only cause why clay soils retard the decomposition of clover, manure, and other organic substances, mixed with it. The experiments of Prof. WAX indicate that clay has a remarkable action in reference to the fermentation of organic matters.

In one experiment, Prof. WAX took three quantities of fresh urine, of 2000 grains each, and placed them in similar glasses. With one portion, its own weight of white sand was mixed; with another, its own weight of white clay; the third being left without admixture of any kind.

When smelled immediately after mixture, the sand appeared to have had no effect, while the clay mixture had entirely lost the smell of urine: they were all decidedly acid to test paper. The three glasses were covered lightly with paper, and placed in a warm place, being examined from time to time. In a few hours it was found that the urine containing sand had become slightly putrid; then followed the natural urine; but the quantity with which clay had been mixed did not become putrid at all, and at the end of seven or eight weeks it had only the peculiar smell of fresh urine, without the smallest putridity. The surface of the clay, however, afterwards became covered with a luxuriant growth of *Conserve*, which did not happen in either of the other glasses.

This is a remarkable experiment, and one capable of throwing light on many subjects hitherto enveloped in thick darkness. The reason that the sand accelerates the fermentation of urine, is no doubt this: All bodies possess a surface attraction for gasses, and of course, therefore, for common air. This attraction, which enables them to condense a certain quantity of air on their surfaces, is in direct relation to the extent of those surfaces. In mixing sand with the urine, we are in fact exposing the latter to a largely increased surface of air, the oxygen of which is necessary to commence the putrefaction, and thus hastening the changes which sooner or later would occur in the urine naturally.

The quick vinegar process, or *Schnellessigfabrikation* of the Germans, whereby cider, or any liquid containing sugar and a nitrogenous or fermenting body, is converted into vinegar in a few hours by filtering it through beech-wood chips, is a case in point.

But what shall we say of the action of the clay? That it retards or changes the nature of putrefaction is evident. But the question is, does it prevent the conversion of the animal matters into the ordinary products of decay; or does it allow of that conversion, and absorb those products as they are formed?

Other experiments made by Prof. WAX show that urine filtered through clay will not afterwards ferment.

As plants can take up their food only in the inorganic state, [one plant can not live on another plant, as such; its *organism* must first be destroyed, and the elements of which it is composed be reduced to their inorganic state,] if clays have the power of arresting decomposition, it follows that the chief value of plowing in clover, &c., on heavy clay soils, consists, the first year, in ameliorating the soil, rendering it lighter, more porous, &c., rather than in supplying food for the plants; and it is a question worthy the consideration of farmers, whether clay soils can not be ameliorated by mechanical means, such as plowing, &c., cheaper than by plowing under long, unfermented manures.

It follows, too, from these experiments, that if we want manures to furnish food for plants on clay soils, they must be thoroughly decomposed before being plowed under. Perhaps it would be better, under some circumstances, to spread them on the surface of the soil. We have seen, on heavy land, barnyard manure so applied late in the fall, on wheat, with good results,—better, the first crop, than when plowed under.

Sand accelerates decomposition. When clover is plowed in on sandy soils, it probably decomposes with greater rapidity, as with the urine in the experiment, than though kept moist in a heap unmixed with sand.

We throw out these ideas, in order to call the attention of observing, practical farmers, to the interesting facts above recorded, and in the hope that they will furnish us with their experience on the various points bearing on this important subject.

SOWING CLOVER.—An old Vermont farmer remarked that he was greatly prejudiced years ago against clover from thin sowing; stalks were large and tangled; couldn't mow it, and cattle wouldn't eat it. He now sows twenty or twenty-five pounds to the acre; his crop stands very thick, but not more than two feet high; cures it in small cocks, and makes beautiful hay. Land needs rest, like all else; give it a good bed of clover that it may have a long, refreshing sleep.—*Exchange.*

English farmers frequently sow as much as twenty pounds of clover seed per acre, but it is not all of one kind. Red clover, on many of their light lands is an uncertain crop, and they seed thick and use different kinds in order to secure a "catch." In this country "twenty or twenty-five pounds" of clover seed per acre is generally quite unnecessary, but it is better to seed thick than to have the plants thin on the ground. The "long, refreshing sleep" in clover should never be longer than three years, and in many cases two years is long enough to let land lie down in clover.

A WORD ON IRRIGATION.

There are thousands of farms where, at a trifling expense, several acres of meadow land may be irrigated with great advantage. The effect of judicious irrigation on grass land is perfectly astonishing. The late PHILIP PUSEY, of England, states that on irrigated grass land of moderate quality, he has kept at the rate of thirty-six sheep for five months. In other words, by irrigation, grass land may be made to produce three times as much food as land cultivated with turnips, under the most favorable circumstances—and turnips, ruta bagas, &c., can be made to produce more food per acre than any other cultivated crop.

This, it must be observed, is in England, where the climate is much more favorable to the growth of turnips than with us. The extensive introduction of the turnip crop has been one of the grand means of improving British agriculture—a large amount of food is produced at a comparatively slight tax on the elements of fertility in the soil, and its consumption on the farm furnishes a great quantity of rich manure. The nature of our climate leads us to believe that turnips can never be as extensively cultivated here as in England, but we may attain, to some extent, the same object by irrigation. The extra produce of a water meadow consumed by animals, will provide an extra quantity of manure for the upland, or arable portions of the farm. BOUSSINGAULT thinks this the only way of increasing the fertility of a farm without going off the farm for manures. The subject is one well worthy the attention of American farmers.

SOIL COLD FROM LACK OF UNDERDRAINING.

A writer in the *Quarterly Review* states that one pound of water evaporated from one thousand pounds of soil, will depress the temperature of the whole soil ten degrees. SIMPSON, in his essay, "Climate of the British Islands in its effect on Cultivation," says:

"Every gallon of water carried off by evaporation, requires as much heat as would raise five and a half gallons from the freezing to the boiling point! Without going to extreme cases, the great effects of the heat thus lost upon vegetation can not fail to be striking, and I have frequently found the soil of a field higher in temperature from 10° to 15°, than that of another field which had not been drained, though in every other respect the soils were similar. I have observed the effects of this on the growing crops, and I have seen not only a much inferior crop on the undrained field, but that crop harvested full three weeks after the other."

PARKES, in his experiments at Chatmores, found that the temperature of the drained soil averaged 10° more than that of soil undrained. He also found that the temperature of land that was well under-drained was highest after a shower. This was doubtless owing to the greater temperature of the water carried down into the soil.

Owing to the shortness of our growing season, it is no slight benefit which under-draining—not to mention other obvious advantages—is capable of conferring on the American farmer, in not only enabling him to plow the land earlier in the spring and later in the fall, but in so increasing the temperature of the soil that it is enabled to mature the crops two weeks earlier than though it was not drained.

NOTES BY S. W.

YOUR explanation of Prof. WAR's experiments and views of the action of lime in soils, and on the growth of plants, is truly interesting. It would seem that in the midst of experimental facts he is still in doubt. Humiliating as this is to the cause of agricultural science, it is far better than that dogmatism in opinion which too often mars the truth in general, and chemical science in particular. This should not be so. Ill-digested scientific dogmatism is the great stumbling-block to the farmer's progress, making him in fact what he is inclined to be from indurated prejudice and habit, a mere follower of hereditary recipes! When I ask a rich-feeling farmer to take an agricultural paper, and he replies to me in that offensive egotism which indorses his own ignorance, I can but feel that even *book-farming* is somewhat to blame for his contumacy. An astute lawyer once said to me, that he "who stood in need of clients, must strive harder to be useful to them than to convince them of his own learning." Now, I can not resist the opinion that Prof. WAR, Mr. LAWES, and Dr. GILBERT, are precisely that sort of men, who would rather be useful to the cause of agricultural science, than to dazzle the world by a display of their scientific attainments. So far from being mere abstract men of chemical science, shut up in the laboratory, they are co-workers with the farmer on the farm; not for a season, but for many consecutive seasons, experimenting on every sort of soil, with all sorts of manures, each of which is thoroughly tried and the effects noted, through all varieties of seasons, wet and cold, warm and dry. They are rather learners than teachers; and as such, teaching by example, shedding forth the light of science without dazzling their readers by its glare! When the farmer comes to understand their language, which he may with a very little knowledge of chemistry, he begins to live a new life, or rather a new phase in life, in which toil and drudgery are ameliorated by that mental enjoyment which is extra, and not created by the comfortable hope of a material harvest!

But *à propos* of lime as a manurial amendment, that oasis in the desert of blowing sand, the farm of A. ANTHONY, Providence, R. I., was brought up to the clover-bearing point by leached ashes and swamp muck, after which cow manure and swamp muck kept up its great fertility. A. told me that he had tried lime as a substitute for ashes, but on such barren sand lime was too active, aside from its poverty in mineral matters. On the other hand, on the clayey limestone lands of Eastern Pennsylvania, lime is found to be an invaluable amendment to the soil; not perhaps as a restorer of a thoroughly exhausted soil, for they say there that such soils will not bear much liming, but only as a dissolvent of the inert vegetable matter left by stable manure and clover in a well-treated soil. It is also said there, that the richer the soil, the more lime it will bear profitably. Hence the common argument that lime accelerates the decomposition of inert vegetable fibre, and is there any doubt that it also acts chemically to liberate ammonia and dissolve mineral plant-food? That lime is not as useful to a sandy soil, may be accounted for, at least in part, from the fact that sand has no power to retain the ammonia liberated by lime in the soil; while clay, on the other hand, is a great absorbent and retainer of that grand *arcantum* in the structure of plants, the carbonate of ammonia.

It has been found that no flat, wet, undrained soils, are much benefitted by liming, or any other amendment, except draining; after which, especially on clays, liming is considered to be only next to stable manure as a sweetener and warmer of the soil. In Eastern Pennsylvania, where experimental farming is at the maximum, lime and green clover are considered absolutely necessary to supply the deficiency of stable and compost manures. Cheap anthracite coal favors lime-burning; so that many farmers have lime-kilns expressly for burning lime for the benefit of their farms.

The thermometer to day (11th Feb.) has risen to 44° in the shade—a point many degrees higher than it has before attained since the middle of December; but in proof of our very temperate climate, the mercury has not fallen below 0.7° this winter, and that only for two or three nights. S. W.—*Waterloo*.

FLAX SEED AND OIL CAKE.

By the Census Returns of 1850, it seems there were raised in the United States, in 1849, 562,810 bushels of flax seed. How far these figures may be correct, is uncertain, though doubtless they approximate somewhere near the true amount. We have other statistics, relating to the imports of flax seed, that can be more fully relied upon. By Custom House returns, there were imported into the United States, during the fiscal year ending June 30, 1855, 1,102,545 bushels of flax seed—in money value, amounting to 1,009,381 dollars. Exported during that year, 5,808 bushels, amounting to 6,016 dollars. Supposing the domestic crop of 1854 to be the same as when the last census was taken, we had for the year ending the 30th day of last June, the sum total of 1,658,847 bushels of flax seed, most of which, we presume, was used for the manufacture of linseed oil.

During the fiscal year above named, there was not a single pound of oil cake imported into this country; but, on the other hand, there was exported from this to foreign countries, 739,589 dollars worth of *American oil cake*. Over 695,000 dollars' worth of this cake went to England; firstly, to make beef and mutton, to feed its dense population; secondly, to supply manure to grow turnips and wheat, and to keep up the fertility of their long-cultivated soils.

I do not know the relative amount of oil cake derived from a given weight of seed, or how many cents' worth of cake a dollar's worth of seed will make; but as there was but little over a million dollars' worth of the imported seed, retained in this country, and almost seven hundred and forty thousand dollars' worth of cake exported, I presume a much larger amount of cake was shipped from this country than was derived from the imported seed. How far such a procedure may comport with the farming interests of our country, is a question of grave import, and one that should be candidly and fairly discussed in all its bearings; and, Mr. Editor, I know of no one so well qualified to impart information upon this particular subject, as yourself. Never having visited my "Faderland" I know nothing personally of its agriculture, but I have read somewhat upon British husbandry; from this source I know something of the value of oil cake for fattening cattle and sheep, and of the high estimation in which it is held there. With suitable rations of oil cake, turnips, or other roots, and chopped straw, the animals are expeditiously and

profitably fattened; hay, frequently, being entirely dispensed with; and the manure of cake-fed stock is almost enough enhanced in value to pay the cost of the oil meal.

Of how little value is a large portion of our straw for feeding purposes, unless accompanied with roots or provender; and how small a proportion of our farmers provide either for their stock. It is for lack of this "provident care" that so many millions of our cattle and sheep are annually turned to pasture every spring merely skin and bones—literally walking skeletons. In England, they have dear land and cheap labor, and meats are somewhat dearer than with us; yet the difference in our favor in the price of oil cake *here* and *there*, must be equal to the freight and insurance, and profits on it of some two or three "middle men" that step in between the oil manufacturer here and the farmer there; and this, with our present high prices of beef and mutton, may make it quite as profitable for American farmers, in many sections of the country, to feed oil cake to their stock as it is for the English farmer. It might not be profitable for the western farmers to substitute oil cake for Indian corn in feeding either their beef or store cattle. But here, in New Hampshire, hay is worth from \$15 to over \$20 per ton, and corn from \$1.12½ to \$1.25 per bushel; and yet, at these prices, thousands of cattle and sheep are stall-fed upon hay and corn for the Brighton and other markets.

To me, it seems to be a serious question to our farming and national interests, whether it is best to make our beef and mutton upon hay and corn, or partially substitute roots, straw, and oil cake for that purpose. If English farmers can make it profitable to annually purchase of us some three-quarters of a million of dollars' worth of oil cake, then it is a matter worthy of careful discussion how far it may be profitable for us to use our oil cake, instead of sending it abroad. LEVI BARTLETT.—*Warner, N. H.*

THE CHINESE YAM, OR DIOSCOREA BATATAS.

THE agriculturists of our country are apparently very desirous of additional information in regard to the various plants which may be advantageously and extensively adopted in our farm culture, and it is a gratification to me to tender my feeble aid toward the establishment of a *true* national independence of every other country so far as regards those plants which our wide-spread Republic is susceptible of perfecting. With this object in view, I have taken especial pains to inform myself fully in regard to the Chinese Potato, or *Dioscorea batatas*, both as to its alimentary position in China and Japan and to its appropriateness for adoption by our country; and the more I have investigated, the more astonished I have become, at its indisputable claims over every other esculent we possess, and at finding that the half, and more than the half, of its remarkable useful properties remain to be told. The surprise so often expressed, as to how food was attainable by the one-third of the inhabitants of the globe concentrated within the limits of the Chinese Empire, may now find its elucidation. On consulting several Chinese agricultural works, which have been republished in the French language, I find the *Dioscorea batatas* to be therein a subject of extensive and general comment. It is there stated that its culture is universal, and extends over every portion of that vast country

And it is further declared to be a grand resource of the nation—"une grande ressource nationale," and that the abundance of its crops, their excellence in quality, and the universal consumption, have rendered it the alimentary basis (together with rice) of that immensely populous empire. It is eaten boiled, roasted, and even in a raw state. It is also dried and ground into the meal or flour everywhere in use throughout that country. Indeed, it would appear to occupy, in an alimentary point of view, the whole space which in our country is occupied by both the common potato and by Indian corn.

The varieties there cultivated are very numerous, the skin and flesh being of different shades, varying in consistency and flavor, and one variety is highly esteemed for its medicinal properties.

In five Chinese works which I have consulted, I have found the following statements:

The *Rice*—white variety, (the one we possess,) when well cultivated in a soil that has been trenched and rendered permeable to the depth of five feet, will produce, on a space of ground ten feet long and three feet broad, sufficient food to support a man throughout a year.

It would thus appear that this vertical root enables them to make up, by deep culture of the soil, whatever deficiency exists in that country superficially, toward the maintenance of its excessive population.

The only kind of manure recommended, is that of cattle and horses, well decomposed; and poudrette is specially objected to by every writer, though we doubt not that guano might be thus appropriated.

In their directions for general culture, they state that the ground is usually mellowed to the depth of two and a half feet, but that three feet is preferable, and that the manure should be plowed or trenched in as deep as possible. The sections of root, each having one or more eyes, should be planted five to six inches deep; and this planting takes place in China the first week in April.

When treated in this way, the plants will grow vigorously, and will not fail to yield an abundant crop. Some cultivators allow the stalks to trail on the ground in like manner as our sweet potato; but others, as soon as the stalks have attained sufficient growth, place poles for them to run upon, which they quickly entwine.

In the autumn, before the ground becomes frozen, they dig up sufficient of the large roots, and place them in a cellar, for winter use; and the small roots and tubers are put in a cellar and mixed with sand, or are buried in a hole in the open ground, intermixed with sand, as the reserve for spring planting. Such portion of the crop as is not wanted for use or for sale during the winter, may be left in the ground, and can be extracted in the spring, if desired, or left to grow through the second season, when the crop will be increased three-fold over the weight of the first summer's growth.

What strikes one's mind at once as giving preeminent importance to this root, is the fact that it is in a condition for use at all seasons of the year, and may be dug up fresh every day, from spring to autumn.

In order to settle the question of its perfect hardiness in our climate, we have left twenty hills standing out the present winter, during which the mercury has been 10° below zero. WM. R. PRINCE.—*Flushing, N. Y.*

SEED POTATOES.

I HAVE more than once read accounts of experiments on the advantages of using large or small potatoes for seed. In all of them, however, there appeared to me to have been a defect, namely, the amount of ground occupied by each kind of seed was not recorded, and apparently not considered essential to the accuracy of the experiment.

In April, 1855, I planted 5 lbs. each of large, medium, and small [too small for profitable table use] potatoes. They were *Pink-eyes*. The 5 lbs. of large numbered 15 potatoes, and were cut into quarters; the medium-sized were cut into halves (lengthwise); and the small ones were not cut. I will call them, for brevity, Nos. 1, 2, and 3. They were planted in parallel rows, in hills. No. 1 occupied 20 hills (three pieces in each hill); No. 2, 27 hills (three pieces in each hill); No. 3, 31 hills (three whole potatoes in each). Ten days after the plants were up, No. 1 were much the most vigorous; No. 2, second best; No. 3, poorest. All were treated alike in after-cultivation.

I dug them on the 11th of October. No. 1 produced five gallons; No. 2, six gallons, 1 quart; No. 3, six gallons, three quarts. The produce of No. 1 I thought were rather better in size than Nos. 2 and 3; that is, rather fewer small ones among them. I further ascertained that No. 2 produced five gallons from 22 hills; and No. 3, from 23 hills, the same quantity as 20 hills of No. 1 produced.

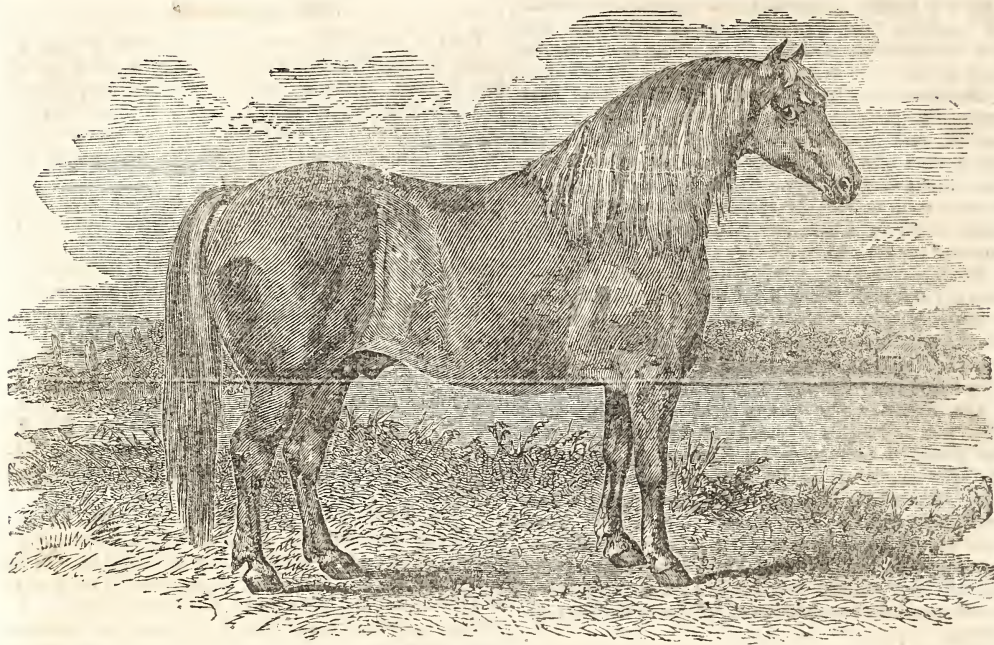
The conclusions to be drawn from the above experiment, seem to me to be these: That small seed produces more in proportion to the seed sown, by 4 to 3, because it occupies more ground; but that large seed yields more to the acre, by about one-seventh; and that of medium size, one-twelfth. It must, however, be borne in mind, that it requires 50 per cent. more of large seed to plant an acre, if they are cut into only four pieces (*i. e.*, about twelve bushels instead of eight), and that we are planting the most valuable part of the previous crop, both for sale and use. JOHN MACKELCAN.—*The Retreat, Ancaster, C. W.*

A GOOD CORN CROP.—A correspondent of the *Country Gentleman*, residing at New Britain, Ct., gives the following account of the management and yield of a corn crop:

"Field contained one acre and 71 rods, green-sward. Manured with 120 horse cart loads of stable manure, plowed 8 inches deep, and well harrowed. Marked in rows each way, 3 by 3½ feet apart. A single handful of the following compost was put in each hill—2 parts night soil, 6 parts loam, 1 part ashes, and 1 part fresh slaked lime. The night soil and loam were composted a year before using. Variety of corn—long eight-rowed; planted dry with hand planter, May 16th. In a part of the field, only the compost was covered before planting. All came up well, and was immediately dropped with ashes and gypsum. At the first and second hoeing, the cultivator was used, and at the third, a small plow. At the second hoeing, three and four stalks were left in a hill.

"The corn was cut up and carted to the barn before husking. The yield, by actual measurement, was 24½ bushels of ears, each containing 17 quarts of corn—a fraction over 90 bushels of shelled corn per acre."

One hundred and twenty loads of stable manure (?) ought to give a good crop without the compost, &c.



A SUFFOLK STALLION.

AN IMPROVED SUFFOLK STALLION.

For heavy dray horses, the *Clydesdale* is the favorite breed in London and most of the cities in England and Scotland; and in some of the agricultural districts, where improved modes of cultivation make slow progress, the old-fashioned, thick-legged, snail-paced, elephantine race of farm horses are still to be found, dragging their slow length along, three, four, five, and six, *one ahead of another*, attached to an antedeluvian plow, or to a monstrous wagon with six-inch tires and other things in proportion. Such an exhibition can still be seen every day in many parts of England; but their number is lessening every year. It has been proved, that a span of active, muscular horses, attached abreast to a plow, will do more and better work than three horses *tandem*, with a boy to drive and a man to hold the plow.

Strange as it may appear to an American farmer, the introduction of the two-horses-abreast system met with decided opposition for many years, but it at length prevailed; and now, instead of being the exception, it is the rule in all the best-farmed districts of England. This new system of plowing led the way to many other improvements, not the least of which is the gradual introduction of a new style of horse, of less weight, but greater activity—a horse that weighs one-third less, eats one-third less, and does one-third more work. Such a horse is the Improved Suffolk. On the farm connected with the Royal Agricultural College, at Cirencester, there are, or was, a few years ago, four spans of horses of the various breeds; and it was found that the Suffolks would do more work with less food, than any of the others. It is, indeed, the general opinion among intelligent farmers in England, that a Suffolk team will

do more plowing in a day, and return home in better condition at night, than any other of their powerful farm horses.

Our engraving is an excellent likeness of the Suffolk stallion owned by Mr. THOS. CATLIN, of Butley, Suffolk, ENGLAND, and which took the first prize of £50 at the meeting of the Royal Ag. Society of England, held at Windsor, July, 1851, in a competition never before or since equalled in the world. Look at his compact, strong, and yet graceful form. There is no waste matter—nothing stupid or clumsy about him. His movements are active and graceful, and none can help admiring the justness and beauty of his proportions, while his strength is as that of an unicorn.

There are two or three Suffolk stallions in the United States and Canada, but those we have seen are not favorable specimens of the breed. We believe a *good* Suffolk stallion would be very useful in correcting some of the more prominent defects in our farm horses, the majority of which, although active and hardy, are light-bodied, and fit only for the road before a light carriage; and where we do find any considerable degree of strength and robustness, we generally find coarseness and clumsiness.

HEIFERS SHOULD CALVE LATE IN THE SPRING.—An English writer considers it a matter of importance that heifers should be so managed as to have their first calf late in spring, when there is an abundance of succulent food, inducing a large supply of milk. This is much better than to have them come in early in spring, when they have dry food only. The habit at first formed is apt to remain with them, and if they commence by giving a good supply of milk, they are apt to be good milkers afterwards.



A COTSWOLD RAM.

THE SHEEP OF GREAT BRITAIN.

CHAPTER III.

LINCOLNSHIRE AND COTSWOLD.

THE Lincolnshire is the largest breed of sheep in Great Britain. According to ELLIS, the oldest agricultural writer by whom any description of them is given, they were "the longest-legged and largest-carcased sheep of all others, and carried more wool on them than any sheep whatsoever." For many years there was considerable rivalry between the breeders of Lincoln and Leicester sheep; the former, it was claimed, giving more wool of better quality, and the latter the most mutton. At length, says YOUTT, a union was established between them; a Lincoln ewe was put to a Leicester ram, and the progeny certainly displayed, and to a very great and profitable extent, the excellence of the male parents. The wether attained its maturity a full year sooner than it was accustomed to do, and with less comparative expense of food even at that time; and when the ewe was drafted, she too was sooner ready to be sent to market, and weighed considerably more than she was wont to do, and was in higher repute and more readily sold.

MR. CLARK, of Canwick, in 1827 exhibited two wether sheep in Lincoln market, the fleeces of which had yielded each 12 lbs. of wool. They were slaughtered, and the carcass of the larger one weighed 261 lbs.; the fore-quarters were each of them 73 lbs., and the hind-quarters 57½ lbs. On the top of the rib the solid fat measured nine inches in thickness!

By judicious breeding, and by means of the improved system of turnip husbandry, and high feeding, the sheep are now rendered fit for market at one

year old, and weigh from 80 to 100 lbs. each, on the average. When kept till two years old, they are very heavy. Thus, three slaughtered a few years since, aged respectively three, two, and one year old weighed 386 lbs., 364 lbs., and 284 lbs.

COTSWOLDS.—The meaning of the name Cotswold is a sheep-fold, and a naked hill or plain. The Cotswold hills, the native tract of this ancient breed of sheep, are of moderate elevation, covered with sweet and nutritious herbage; and though formerly a bleak, wild, and uncultivated district, given wholly to sheep walks, it is now inclosed, cultivated, and greatly improved. The sheep also have undergone a like improvement; so that they now rival the New Leicester in symmetry and early maturity, while they possess a heavier fleece and carcass. They have been crossed with the Leicester with decided advantage; their size and fleece being slightly reduced, but their tendency to fatten and early maturity, as well as the quality of the mutton, are much improved. They have also been crossed with the Hampshire Downs, thereby improving still more the quality of the mutton, but greatly reducing the weight of wool and carcass.

The experiments at Rothamstead show that for the food consumed the Cotswolds increase in weight more rapidly than any other breed. (See *Genesee Farmer*, for 1853, page 241.)

The Cotswolds, especially in the Southern States, have been pretty extensively introduced into this country, and are yearly becoming more and more popular. There are a few in the Northern States and in the Canadas, and they stand the climate equally as well as the Leicester and South Down. They are known in some parts as the New Oxfordshire. Their weight

of carcass and fleece has been well sustained in this country. Mr. REYOLD, of Delaware, has killed Cotswold wethers weighing 200 lbs. dressed, and they frequently weigh from 30 to 40 lbs. per quarter.

In England, the Cotswold is called the "poor man's" sheep, because their mutton can be produced cheap. In London, Cotswold mutton sells at from two to three cents per pound less than South Down. But the Cotswold increases, for the food consumed, enough more to make up for the less price obtained; and it is an open question which is the more profitable breed. In this country, at present, Cotswold mutton probably sells as high as South Down, and therefore Cotswolds must be the more profitable breed. The time, however, will come when consumers will be more discriminating.

Our engraving represents a Cotswold ram owned by Mr. GEO. HEWER, of Ley Gore, near Northleach, Gloucestershire, England, for which the first prize of \$125 was awarded at the meeting of the Royal Ag. Society of England, held at Windsor, July, 1851.

IMPROVING THE BREED OF ANIMALS.—A writer in the *London Farmers' Magazine* truly observes: The principles of breeding animals have rather been illustrated than discovered by animal physiology—the very principles of that science having been taught before a single scientific axiom had been applied.

The watching of physiological tendencies, and availing themselves of these judiciously in practice, was long anterior to scientific research. Emulating the skill of the wily progenitor of the Jewish race, and intelligently perceiving what was required, a Culley and a Bakewell attempted and attained the production of sheep and of cattle, "ring-streaked, spotted and speckled," at pleasure. Seeing the necessity of economising food, they set about producing those animals which came to maturity early, and so produced vastly more food from the same amount of vegetation. Knowing that fat was an element of favor in a northern clime, they endeavored to obtain animals with a tendency to secrete large quantities. In order to this, they observed the qualities indicative of those propensities; and knowing that it is as true in physiology as in mathematics, that like produces like, they selected and bred from these until they stamped their qualities permanently and invariably and indelibly on the race. With these they managed to combine symmetry of form.

TRAINING A BALKY HORSE.—In India, when a horse becomes stubborn and refuses to move, instead of whipping him, as is our custom, or setting fire to straw under his belly, as is sometimes practiced in England, a rope is attached to his foreleg, and one or two persons go ahead and pull at the rope. It is said this will start the most refractory horse. The *Michigan Farmer* says a horse became balky in Detroit a short time since, and neither whipping or coaxing could make him stir. A rope was fastened round his neck, and he was dragged a short distance by another team, but this did not effect a cure. The rope was then taken from his neck, passed between his legs, and fastened firmly to his tail. In this manner he was drawn a short distance, and when the rope was taken off, the hitherto unruly animal was perfectly obedient to the will of his master. We have seen this method tried, with similar results.

EXTRACTS FROM A LETTER FROM OHIO.

INCLOSED are \$3, for which you may send me eight copies of the *Genesee Farmer*. It is now more than a year since I stopped taking the *Farmer*, and although I take two other agricultural papers, I find none that meets the wants of the farmer as well as your journal.

Agricultural papers are much needed by the farmers on our prairies here. People must be taught the value of manures, &c. I know of farmers near one of the greatest markets for vegetables in the West (Sandusky City), who will give their manure to any one who will haul it away; and frequently the manure lies for years in the barn-yard before it is removed, and then it is done only to save moving the barn or prying cattle out of the miry yard in the spring, or to keep off fleas in the summer. Our prairie generally is very rich, yet manure never will hurt it if applied right. The soil through this portion of Ohio is well adapted to growing all kinds of farm produce. Wheat, Indian corn, and oats, are the principal crops. There has been a great falling off in the wheat crop during the last two or three years, owing to the insect destroying it; and farmers, in consequence, have turned their attention more to corn and oats, and to the raising of stock. Potatoes generally yield very well, and either the Irish or the sweet potato can be grown with facility. More attention is given to the raising of good fruit than formerly; perhaps owing to the high price which it commands in market, and the more ready sale.

Farming here on the prairies has been profitable for a number of years past. Crops have been unusually good, especially two and three years ago, during those dry seasons, which favored the low prairie very much. Many have made great improvements in their farms, by ditching and draining, thus bringing many more acres under cultivation; but in some instances they do not so well cultivate what they had in use before, for, among some western farmers, the more land they get under cultivation, the less they work it. EDWIN WOOLFERTON.—*Milan, Erie Co., O.*

CLOVER ON SPRING CROPS.—Clover may always be sown upon small grains with profit. We sowed clover, says JESSE BUEL, upon four acres of rye and two of barley, last spring, and notwithstanding the dry weather, it took well. After pasturing the rye stubble some ten or fourteen days, the autumn feed was sold for \$12.50. The barley ground has afforded an abundance of fine feed. Say the six acres required a bushel of seed, at \$6, and that the fall feed was worth \$18, there will be a profit of \$12, or \$2 per acre. But the clover lay will furnish at least thirty tons of vegetable food to the next season's crop, if turned under the first of May, which will be no inconsiderable increase to the profits.

TO BREAK CORN STUBS.—The following plan which I adopt for breaking off corn stubs may be of use to some readers of the *GENESEE FARMER*. Procure a stick of timber 6 inches square, and 15 feet long, hitch a pair of horses to it, and draw it round a corn field when the ground is hard frozen, taking four rows at a time. In this way a large field may soon be cleared. It will break them off even with the surface of the ground. GEO. SHARPLESS.—*McClellandsville, Delaware.*

ESSEX SWINE.

THE Improved Essex holds the first rank among British breeds of swine, especially as "porkers." During the last dozen years, in the hands of the celebrated breeder, W. FISHER HOBBS, of Marks-Hall, Essex, it has probably taken more prizes at Smith-field, and at the shows of the Royal Agricultural Society, than any other breed. The late Lord WESTERN originated the breed, it is believed, by crossing the Berkshire with the Neapolitan, with a slight dash of the Chinese and the old Essex hog. STEPHENS, in his *Book of the Farm*, speaks of them as follows:

"As to the breed which shows the greatest disposition to fatten, together with a due proportion of lean, I never saw one equal to that which was originated by Lord WESTERN, in Essex. * * They were exceedingly gentle, indisposed to travel far, not very prolific, however, but could attain if kept on to a great weight, and so compact in form, and small of bone and offal, that they invariably yielded a greater weight of pork than was judged of before being slaughtered. The offal was small, and more delicious ham was never cured than they afforded."

MARTIN says, "These animals fatten quickly, grow rapidly, and yield very superior meat. The hogs, when fattened, will sometimes weigh 26 or 28 stones (14 lbs.), often 18 or 20"—equal to 252 to 392 lbs.

The Essex has smaller head and ears than the Berkshire, feathered with inside hair—a distinctive mark of both; has a short snubby nose, very fine bone, broad and deep in the belly, full in the hind quarters, and light in the bone and offal. "They feed," says RICHARDSON, remarkably quick, grow fast, and are of an excellent quality of meat. The sows are good breeders, and bring litters of from eight to twelve."

L. G. MORRIS, Esq., of Mount Fordham, Westchester county, N. Y., has imported, at various times, the cream of W. FISHER HOBBS'S stock. He has got the best that money would purchase. There are no better, if as good, in England.

Some object to the Essex on account of their

color. This is a fanciful rather than a real objection. Others assert that they will not stand the heat of this climate. In regard to this, we can say that we were at Mount Fordham on one of the hottest days of last summer, and saw "Fisher Hobbs," "Aunt Chloe," "Topsey," and a host of black, chubby, fat little beauties, enjoying themselves in a clover field, as well, apparently, as they could at Marks-Hall. Certainly they appeared to suffer no inconvenience from the heat.

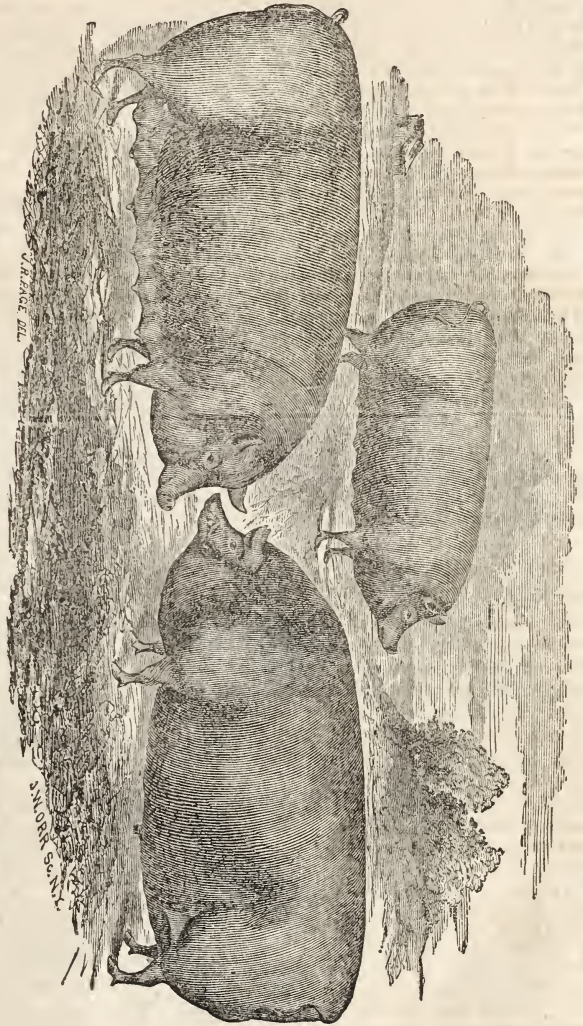
PROPERTY OF L. G. MORRIS. "AUNT CHLOE" AND "FISHER HOBBS" WON THE FIRST PRIZE IN THEIR CLASS AT THE N. Y. STATE SHOW, IN 1883. "FISHER HOBBS" ALSO WON THE FIRST PRIZE AT THE U. S. SHOW, IN 1885. "AUNT CHLOE" AND "2D TOPSEY" WON THE 2D PRIZES.

ESSEX SWINE.

"AUNT CHLOE."

"2D TOPSEY."

"FISHER HOBBS."



A variety of the Sussex breed is closely allied to, and may be identical with the Essex. Some of this variety were introduced into this country several years since, by Mr. HENRY PARSONS, now of Guelph, Canada West. SANFORD HOWARD, Esq., of the *Boston Cultivator*, says he "obtained some of the stock of Mr. PARSONS, and from the experience of several years, can say he never had any swine that gave more weight of carcass in proportion to the food consumed, and never any equal to them in quality of meat."

CANADIAN HORSES.—The *Journal of the New York State Agricultural Society* for February contains an interesting "Report as to the Provincial Fair of Canada East, held at Sherbrooke, September 12-14, 1855, to the Executive Committee of the New York State Agricultural Society," by H. G. FOOTE, of Ogdensburg, N. Y., one of the delegates from this State. We extract what he says in regard to the heavy draught horses.

"A remarkably fine display of draught horses was made. The animal which took the first premium was a four year old, and his weight was represented as about 1,700 lbs.; the second best horse exceeded this about one hundred weight; the third best was a cross of the blood of the two former, which was as "the Clyde" upon a Morgan mare. He had the eye, ear, head, action and fire of the Morgan, with the giant frame of the Clyde. He was a splendid animal, but was not a pure blood, and so stood No. 3. All the draught horses of any note were of this blood. We noticed two half-bloods, two years old, each judged to exceed 1,200 lbs. These were termed "heavy draught" horses, while the stallion that took the first prize for "light draught" horses, was estimated at 1,600 lbs. This was a noble specimen, and the Governor-General of Canada, Sir EDMUND HEAD, who was present, honored him by calling him from the ring, and by special notice. In looking at these horses, I could but contrast them with the light limbed, thin skinned, small and fretful animals after which our farmers bob and jump, by convulsions, when fastened to a heavy breaking up plow. The Scotch farmers, who mostly had these animals in charge, assured me a span would draw a plow ten inches deep in breaking, with the docility and steadiness of oxen; and that they would turn their two acres per day of such plowing, and show no exhaustion."

GOOD HOES.—We find the following in the *Boston Cultivator*:

"Mr. CYRUS SROW, of Concord, Mass., gives us an account of four Suffolk pigs, fatted by him. We saw them a short time before they were killed, and noticed that, though not remarkably large, they had great weight of carcass for the bone and offal. They were bred by Mr. C. B. CLARK. Mr. SROW says:

"These four pigs (all sows) I bought on the 8th of February last. They weighed 145, 140, 130, 100—total, 515 lbs.—at 5½ cents=\$28.32½. Deduct for shrinkage forty per cent., would leave 309 lbs. dead weight when I purchased them. They were killed on the 15th of December, and weighed 449, 374, 366, 367—total, 1556 lbs. I sold three of them at my door at 11½ cents per pound, and kept the other for my own use. Aggregate value of the four, \$178.94; deduct cost, \$27.48, leaves a gain of \$150.61½. They were kept by me 309 days, and gained, as I calculate, 1247 lbs., or a trifle over a pound each, per day—nothing to brag of if they had been high fed—but they were kept very cheaply, and had but little meal until the last month of the time, when they were fed with cob meal (corn and cobs ground together). The remainder of the time they had the wash of the house and the skimmed milk of two or three cows, with small potatoes and pumpkins boiled up with a little meal. I keep five cows, and sell about one-half of the milk."

The *American Vet. Journal* states that an excellent diet for sick animals, is simply *scalded shorts*. When a horse has taken cold, with discharge from the nostrils, the *mash* may be put into the manger while hot, with a view of steaming the nasal passages.

GRINDING CORN IN THE COB FOR SWINE.—The *Valley Farmer*, in a sensible article on this subject, observes:

"Independent of the nutriment contained in the cob of Indian corn, we believe that where the whole is properly ground together, the cob performs a very important part in the economy of fattening swine; as corn, when fed alone is too concentrated, and fails to afford sufficient distension to the organs to insure perfect and healthy digestion."

As applied to ruminant animals, this is a valid argument; but swine require much more concentrated food than sheep, cows, or even horses; and it is in our minds quite questionable whether corn, together with the other substances generally fed to pigs, is any too nutritious, or that it will be profitable to grind cob and corn together for pigs, in order to dilute the corn meal. Better dilute the corn with roots, pumpkins, apples, &c., or with bran.

FATTENING ANIMALS SHOULD BE KEPT QUIET.—For young, growing animals, exercise is necessary, in order to fully develop the frame. In feeding, tranquility is equally indispensable, a singular exemplification of which was made in the course of the experiments of the Earl of Egremont, in 1777, related in the *Annals of Agriculture*, upon some porkers, seven of which were put up to fatten in the ordinary manner in a sty, and another of the same litter, but smaller than the others, was put into a cage one week later. All were fed alike on barley meal. When slaughtered the one fed in the cage exceeded in weight any of the others. The cage was made so that he could not turn round, and had not sufficient room to rise up and lie down. There can be no doubt that too much exercise, exposure to cold, &c., retard fattening.

"PIGS CAN SEE WIND," says an old proverb. The uneasiness displayed by pigs prior to atmospheric changes, is well known. This is attributable to the extreme nervous excitability of the skin and mucous membrane, which makes this animal feel any sudden change in the condition of the atmosphere more acutely than the majority of our domestic animals. Farmers should bear this in mind, and provide places of shelter for their hogs, open to them at all times.

WARTS ON HORSES.—A correspondent of the *Country Gentleman* says:—"One year ago I had a fine young mare that had no less than half a dozen warts, from the size of a pea up to that of a half dollar. After many unsuccessful trials I applied muriatic acid (with a feather) daily, and had the pleasure of seeing them disappear rapidly, and in a few weeks there was not one wart to be seen. It is a safe and speedy cure."

TO REMOVE VERMIN FROM CATTLE.—Dissolve camphor gum in new rum, making the liquid pretty strong of camphor, and apply it on various parts of the body of the animal. It is a harmless application, so far as the animal is concerned, leaving the coat free and clean, but destroys the lice. In about two or three weeks after the first application, rub on the liquid again, in order to kill the young vermin that may have hatched out.

When fed to horses and cattle, a heavy crop of carrots is soon transmuted into carrats of gold.

RAISING CALVES.—A correspondent of the *New England Farmer* practices the following method of raising calves:

"Let them suck one half the cow gives for four or five weeks, keeping fine hay before them, and giving them once a day a handful of meal or oats, or a few crusts of bread soaked in water, then learn them to drink porridge made of skim milk and buckwheat flour, or meal that has been sifted. In this way they seldom scour at all; and if one does, I take a little white pine charcoal, finely pulverized, and mix with lard enough to make it adhere; spread this mixture on a piece of bread, and give it, which is a certain cure. I feed in this way until they are three months old, when they will do to wean. A few oats should be given once a day a while longer. During the first winter they should be kept in a warm stable, and have all the good hay they will eat; after this they will grow well and keep in good condition on meadow hay. In this way it is no uncommon thing for my three year old steers to weigh 3000 lbs.

EVERY FARMER SHOULD KEEP BEES.—A writer in the *Valley Farmer* thus eloquently discourses about bees:

"In olden times, the promised land was said to be flowing with milk and honey. The homes of many of our farmers may be said to be literally flowing with milk; but how few are flowing with honey. Cows are plenty—but where are the bees? Wild in the woods; hiding their sweet treasures beyond our reach. Why are they not tamed—domesticated? Bees are as useful as chickens, and as easily raised. They afford us a luxurious food—healthy, and might be cheap. Bees require no feeding, little expense and attention. They want only a comfortable home, covered from the storm and sun, and protected from the marauding milers. They will make their own living, and do considerable towards the living of the farmer. Not many swarms can be prosperously kept in one place, but every farmer may raise honey enough for home use and a little to spare. Every gardener, every villager, might do it. A single swarm of bees, well attended to, will soon produce as many swarms as can be successfully kept in one place. All that bees make is clear gain. They get their treasures from flowers. We should have bees enough in the country to have one always sipping at every flower. The flower is all the time producing honey. The bee should be all the time gathering it. If we had a bee all the time at every flower, honey enough would be produced to supply the world. It is a means of wealth, health and pleasure. Let bees be cultivated,—let every farmer have them. They are as useful as cows, and far less trouble. A little attention will teach one to manage them."

JAPANESE PLOWING.—This is done with a small plow, with a single handle and beam, the share being like an iron scoop, of no great diameter. It is drawn by an ox, with traces, and a wooden saddle, while a small boy leads him by a stick attached to a ring in his nose, and a man holds the handle of the diminutive earth scratcher.

REMEDY FOR THE FOUNDER IN HORSES.—Take a table spoonful of pulverized alum, pull the horse's tongue out of his mouth as far as possible, and throw the alum down his throat; let go of his tongue and hold up his head until he swallow. In six hours' time, no matter how bad the founder, he will be fit for moderate service.

MONGREL GEESE.—The *Boston Cultivator*, which is excellent authority, says:

"The offspring resulting from a union of the wild goose (*Anser Canadensis*) and any variety of the domestic goose, is incapable of propagation. It is commonly called, in this vicinity, "the mongrel goose." The flesh of this bird is highly prized by epicures, and usually sells at a higher price in Boston market than that of any other poultry. The day before Thanksgiving, when turkeys were selling at eighteen to twenty cents per pound, and Bremen and other large geese at a Yankee shilling (one-sixth of a dollar) per pound, we asked the price of mongrel geese, and were told that they were selling at *three dollars apiece*. Their weight was probably about ten pounds dressed. This was an unusually high price, but they frequently bring two dollars apiece.

"These mongrel geese are very easily reared. They grow very rapidly and require nothing but grass till a short time before they are killed. In fact they are sometimes killed in good condition, directly from the pasture. A wild gander and tame goose, or a wild goose and tame gander may be mated together, and they are sure to bring up their annual brood, perhaps for half a century.

"The wild gander will seldom mate with more than one goose; he is no Mormon, and when left to his natural instincts, seems to abhor polygamy, though instances have been known in which these principles were overcome by domestication. But any tame gander will mate with several geese, whether with the wild species or any tame breed. The wild goose does not breed till she is three years old, but after that age is more certain to rear young every year than the common goose. The broods range from four to seven goslings, and all that are hatched are pretty sure to grow up, as they are hardy and not liable to accidents."

MILKING.—The *Massachusetts Ploughman* says.

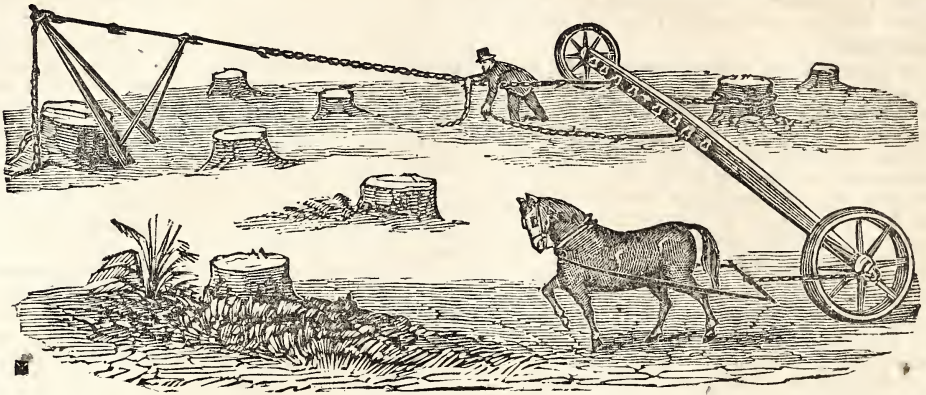
"The milker should sit close to the cow, and should endeavor by all means to be on good terms with her—for if he scolds and kicks, she will be quite likely to return the compliment. Sit close, and let the left arm be in contact with the leg of the cow. Then she cannot set her foot into the pail if she is disposed to do it. She cannot kick while her leg is in contact with your left arm, for a blow requires space between the agent and the object.

"The quickest is the best milker, for there will be a flow in less than a minute from the commencement of the process. Take advantage of this, and not let the milk flow back again. Milk out all that the cow will give, for the last of the milk, or strippings, is worth more than four times as much for butter as the milk that first comes."

POTATOES.—The *London Gardener's Chronicle* says that the potato disease is on the decline. The use of salt, mixed with the manure, is highly recommended. Chlorine and potash are necessary for potatoes. These are produced by the use of salt and ashes, with barnyard manure.—*American Institute Farmers' Club*.

Chlorine and potash are as necessary for every other agricultural plant as potatoes.

WASH FOR BARNES.—The *Horticulturist* gives the following as the best for this purpose: Hydraulic cement, 1 peck; freshly slaked lime, 1 peck; yellow ochre (in powder), 4 lbs.; burnt umber, 4 lbs.; the whole to be "dissolved" in hot water, and applied with a brush.

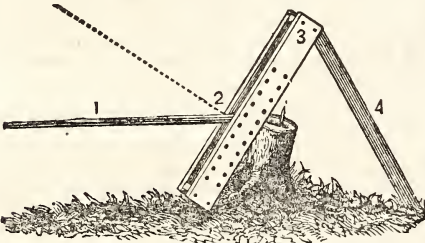


WILLIS' STUMP MACHINE.

STUMP MACHINES.

Will you please tell us the best apparatus for pulling stumps? There are thousands of pine stumps here, which are very much in the way. D. EDWARDS—*Little Genesee, N. Y.*

A correspondent of the *Genesee Farmer* recommends the following as a cheap and simple stump machine, where the land was not very heavily timbered and the stumps are now considerably decayed:



"In the sketch, 1 is a round pole 10 feet long, 4 inches in diameter at the largest end, which is well banded. Into this is inserted a bar of iron 2 by 2½ inches, drawn to half that size at the end inserted into the pole, and 2 feet long. Near the end of this two notches are cut, a little over 4½ inches apart. In the middle between these, a hole is punched, and a link 6 inches long inserted, as seen in Fig. 2, which represents the bar, large hook to hitch under a root of the stump, a link inserted in each, and a connecting hook. The links are made of round ½ inch Swed. iron, the connecting hook of 1½ do.; the large hook of a bar of old sable iron 18 inches long, bent round edgewise. 3 is a frame consisting of two oak planks 3 inches thick, 8 wide, and 7 feet long, pinned together at the end through a piece of 4 inch scantling, between the planks. There are two rows, 4½ inches apart, of 1½ inch holes through these planks, the holes being 3½ inches apart in the rows, from center to center. The holes in the right hand row are one inch lower than the opposite ones in the left. Through these holes two iron bolts, as large as the holes, are made to pass, for the bar or lever to rest upon.



FIG. 2.

these planks, the holes being 3½ inches apart in the rows, from center to center. The holes in the right hand row are one inch lower than the opposite ones in the left. Through these holes two iron bolts, as large as the holes, are made to pass, for the bar or lever to rest upon.

To use this machine, it is set up as seen in the figure, 4 being a board for a brace, the lever placed between the planks, the notches resting on the two bolts, and the hook hitched under a root. Now elevate the end of the lever, (which needs a short pole attached by a ring to the end of the long one,) withdraw the left hand bolt and raise it one hole higher; now depress the end of the lever and raise the right hand bolt; and so on as high as you wish. The cost of the machine was \$7—iron \$4, making \$3. Any blacksmith and carpenter can construct one. With a team and sled, and stone-boat to draw the machine about, I have seen two hands, on a lot that had been cleared fourteen years, pull in a day from sixty to a hundred stumps, mostly from ten to eighteen inches in diameter."

WILLIS' Stump Machine, manufactured at Orange, Mass., is highly recommended by Hon. SIMON BROWN, of the *New England Farmer*, by Prof. NASH, and others who have seen it work. It is not only used for pulling stumps, but is applicable to moving buildings, rocks, &c.

A strong chain is put around the foot of the stump to be removed, as represented in the engraving on the left. This chain passes over shears, or strong timbers so placed as to give the power at the stump an upward direction. In many cases this part may be dispensed with, and the chain pass over the stump. The chain continues onward to the lever, on wheels, to which the horse is attached. This lever is fastened to an ordinary stump. When the horse has passed on, according to his present position, the length of the lever, he is turned in the other direction, and at the same time, the outer chain is dropped, and the inner chain is hooked into the leading chain, and the horse passes to the extent of the lever in the other direction.

A pair of oxen may be used, if more convenient. When the stumps are thick, a large number may be pulled without removing the lever from the stationary stump. The largest stumps may be easily extracted with this machine. A pair of horses or oxen is a sufficient team to take it from place to place, and three men are sufficient to manage it in the hardest work. The removal of 100 stumps is considered a day's work.

ALWAYS give the soil the first meal. If this is well fed with manure, it will feed all else—plants, animals, and man.

MACHINE FOR SAWING WOOD.

MACHINE sawing, as it is called, is getting very popular in some parts of the country, and deservedly so in every case I have known, when the machine was not more than fifty per cent. below par.

The best machine I have seen was in Michigan—driven by a four horse lever power, with a railroad and car at the joint of the pitman, so as to make the saw play as level as possible; a machine saw; two logs a few inches apart for the log to be sawed to ride on; a capstan, or upright windlass, with a small cable chain dogged into the back end of the logs, passing under the saw; a guide just back of the saw, also a tail-piece on the end of the saw, and a light, movable guide to steady it. The saw was raised while in motion by the tail-piece; a man at the capstan would move the log along in a few seconds, the man at the saw would let it on the log, and the sawdust was immediately flying as fast as one could desire. The owner took a hand and two horses with him, and two men and two horses more were required, which the employer furnished as he moved from place to place; and though the logs were small, he sawed for ten cents per cord, or \$4 per day.

I bought an old slow motion threshing power, got a frame made to strain a cross-cut saw, like a buck-saw. I had to make the breast of the saw one-half or two-thirds of the length nearly straight, otherwise I have the Michigan rig; and by giving one hundred revolutions of the crank in a minute, I have sawed off, with two horses, a green beech two feet in diameter in one minute; and think it would not be abuse to my small span of horses to make them saw a cord of stove wood in ten minutes. My sawing rig was a crazy affair at first, but, by constructing the greater part of it a second, and some even a third time, I have an excellent machine saw. The weight of my saw and frame is less than seventy pounds, and consequently it must be set down very solid. Twelve of my neighbors last winter drew logs for me to saw, and they usually had a load of blocks to draw back. My price is twenty-five cents per cord, or one-third of the blocks. When the log is half sawed up get the diameter, which multiplied into itself and the product multiplied by the number of cuts and one-tenth added, gives the measure after splitting and piling, at the fineness we usually split it.

A slow-motioned machine will do considerable business with a machine saw, especially if the saw is stiff enough to bear a heavy pitman and a long crank. In such cases the saw should not be filed to cut much from the crank, but mostly towards it. I know of such an one that performs nicely with one horse, and consequently is not strained. It will saw stove bolts, stove wood, etc., as fast as the owner desires, as he tends and rives, or splits, without help.

Almost any kind of power may be adapted to sawing. For five winters I sawed my toughest logs to split, with a sheep churning power, sometimes as fast as one cord in two hours, and the sheep kept fat.

You need not call a machine A No. 1 unless each horse and hand can comfortably saw ten cords per day from fair logs. Many will not do half that, and men who undertake to saw with them are not likely to succeed in this business, which is yet in its infancy. I would advise but one or two men in each neighborhood to go into the business, to get good machines, and to saw during the winter as much as they can.

I would like to be informed as to how the tread powers perform sawing logs. I suppose they are better than the lever ones driving circular saws;—however, mine will do something in that line, although I am obliged to add five-fold to the speed of the driving wheel. I have a rig similar to the saw table used for cutting off slabs, nine feet long, which will cut off limbs as large as two men can lay on.

The motion of a tread power has to be regulated, as the force is uniform, let the sawing be hard or easy. I am told a spring pole is used to add to the weight of the saw.

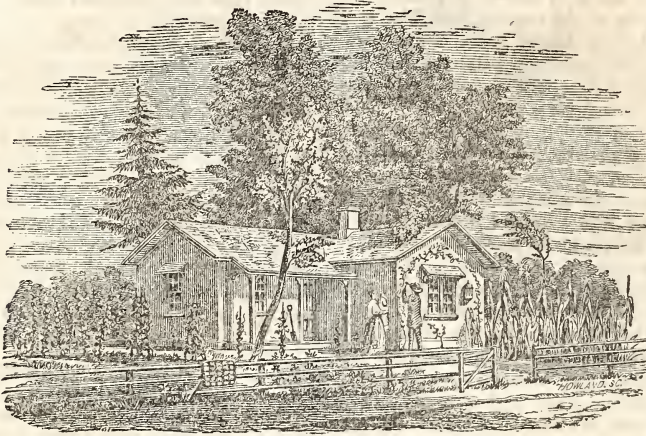
Our best sawing rigs do not cost over \$20; and I know of one respectable one that I should think did not cost \$10, saw and all. But I do not advise cheap machines, without the builder knows well what he is about. J. W.—*Hannibal, N. Y.*

THE ROLLER AND ITS USES.

THE roller is in many ways serviceable on a farm, and it is an implement which every farmer, with trifling aid from the smith, may shift to make for himself. It may consist of a log of two or three feet in diameter, and eight or ten feet long, nicely smoothed on the outside, with gudgeons in the centers of the ends, a frame, and tongue and shafts to draw and guide it by. After sowing small grains and grasses, the roller should follow the harrow. It breaks down the clods, smooths the surface, and presses the earth to the seed, and thereby causes more of it to vegetate and grow than otherwise would; for if the earth does not come in close contact with the seed, it remains dry, and is lost. In the spring, as soon as the fields are dry, and firm enough to resist the feet of the cattle, the roller is very beneficially applied to meadows and winter grain. At this time the surface of tilled ground is crusted, and generally checked with small fissures, which expose the collar (the part which connects the roots and leaves,) and roots to the drying influence of the sun and winds. The roller breaks and pulverizes the crust, and renders the soil more pervious to heat, and closes the fissures. It is also serviceable in partially covering the crowns of the plants, which induces them to send out new roots, and to send up more seed stalks. This effect is particularly noticeable in barley, when the roller is passed over it, after it has become three or four inches high. If winter grain is harrowed in the spring, the roller may follow the harrow.

In rolling grass lands it is necessary to attend in a particular manner to the season, as it cannot be performed to advantage when the surface is either in too dry or too wet a condition; if too wet, the ground will become poached by the cattle's hoofs; and if too dry, the roller will make little impression in leveling the surface; and it is generally necessary, if the roller be of wood, to add to its weight for grass grounds, by placing stones in the box which is attached to it for that purpose.

SAVE THE OLD BONES.—The value of bones in almost any form, as a manure for field or garden, should induce farmers to save them for this purpose. In the winter, especially, large quantities might be gathered, to be broken in spring and mixed with compost, or applied directly to the soil. For pear trees—for grass lands, for most kinds of vegetables—nothing better can be found. Then save the old bones, and though you fail in making "improved superphosphate," you will not fail in benefiting your land, and increasing its productiveness by the application.



DESIGN FOR A ONE-STORY COTTAGE.

PLAIN ONE-STORY COTTAGE.

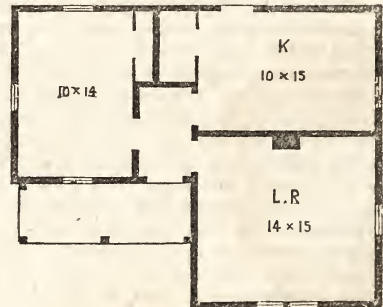
WE are no advocates for one-storied houses. The cost of foundation and roof is nearly as great as for houses of two or three stories; and we can not believe it healthy to sleep so near the ground, unless more than usual precautions are taken to ventilate the bed-rooms. But there are those who must content themselves with a small cottage; and it would be clearly inappropriate to make a two-story house, when the dimensions of the ground floor hardly exceed the proper height of a story. In places exposed to violent winds, a low house is often most suitable.

One-story houses have some advantages. The rooms are all on a level, greatly facilitating the indoor work. There is no climbing up stairs; nor can "children break their necks by falling down them, or from chamber windows."

The accompanying design for a cheap one-story cottage, we take from *Village and Farm Cottages*:

"It is needless to say for whom this plan was intended, as the whole family is in sight. The owner, whom you see so busy with hammer and nail, is one of that independent sort, who like to do things in their own way. On the edge of the village he bought a piece of ground, but partly cleared, and which nobody else had thought of. Here, amid the spared trees, he put his house. He wanted but three rooms. A veranda, where he could sit in the shade, and enjoy the fresh air, he was resolved to have. To carry out his own views of convenience and comfort, he disregarded the advice of neighbors, who insisted that it would be quite as cheap, and much better, to build his house "regular and square." He did nothing for mere fancy. The cornice is unornamented, the front door plain, the window caps are strips of plank sustained by three-cornered blocks. An evident purpose pervades every part of the plan. At first it looked so plain, compared with neighboring houses, which were tricked out in gingerbread finery, that people laughed, and called it barn-like. Not so now. Prairie roses, planted and trained by the owner's own hand, already supply the want of pilaster and cornice. Honeysuckles will soon climb the slender columns of the veranda, and hang between them in fragrant festoons. Ere long, grape-vines will display their purple clusters, where now the bean-poles stand. The maize-patch, at present some-

what too near, will be replaced by grass and flowers; and then, perhaps, some who once scorned the homely dwelling will stop to gaze, and long to enter



PLAN OF FLOOR.

"Let them enter. They will find every thing in order within. The interior of the house was planned to suit its mistress. Each room is entered directly from the entry, and this being the only connection between them, no one can be used as a passage way to others. The kitchen, with all its sounds and odors, is effectually separated from the sitting-room. Each of these rooms is supplied with a pantry; and a back-door opens out from the latter. The inside walls are neatly papered. The doors and trimmings are plain and substantial.

"Height of rooms, 8 feet 6 inches. Cost, estimated at \$650."

A FEW GENERAL RULES FOR BUILDING.—Prefer lasting to perishable materials, even if more costly. A small, well built erection, is better than a large decaying shell.

Discard all gingerbread-work, and adopt a plain, neat and tasteful appearance in every part. Far more true taste is evinced by proper forms and just proportions, than by any amount of tinsel and peacock decorations.

Where convenient or practicable, let the plan be so devised that additions may be subsequently made, without distorting the whole.

The first floor of any house, however small, should be at least one foot above ground, to guard against dampness.—*Illustrated Annual Register*.



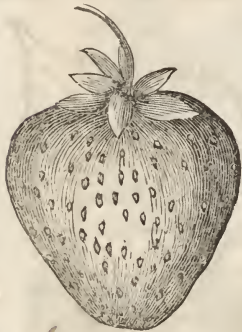
Horticultural Department.

THE SMALL FRUITS.

THERE is both pleasure and profit in growing fruit. The farmer of course grows fruit, as he does wheat and corn, for profit. Yet, in addition to this profit, it furnishes his family with the most delicious luxuries earth can yield. The well kept garden is the home of beauty. To the sight, the smell, and the taste, the garden affords the highest gratification. Those

who reside in villages and in the suburbs of cities, cultivate fruit for the pleasure it affords. There is enjoyment in planting, in pruning, in cultivating, in watching the buds and the blossoms, and the full ripened fruit. To all, but more particularly the latter class, we must recommend the cultivation of the smaller fruits, as affording the greatest amount of pleasure for the least means and space.

STRAWBERRIES, we place first, because the earliest fruit to delight our appetites. The strawberry requires a *good, deep soil*; that is, a soil plowed or dug eighteen inches deep, and enriched with well-



Burr's New Pine Strawberry.



Hovey's Seedling Strawberry.

rotted manures. The plants should be set about a foot apart each way, and kept free from weeds and



FASTOLF RASPBERRY.

runners. After the bed has been planted about two years, start another, and by the time this begins to bear well, the old one will be pretty much worn out. Those who plant for the market would do well to plant in rows about two feet apart, and one foot in the rows. This allows the use of the cultivator between the rows. Strawberries may be planted during any of the spring months, and from the middle of August to the middle of September. If done late in the spring, or during the warm weather of August, a showery day should be selected.



RED ANTWERP RASPBERRY.

The following would be a very good assortment for a small collection: *Staminates*—Large Early Scarlet, and Boston Pine. *Pistillates*—Burr's New Pine, Hovey's Seedling, and Crimson Cone. The latter is a beautiful berry, but rather too much acid for the taste of some. When eaten with cream and sugar, however, it is not excelled, and most of the Strawberries we see in market are of this variety.



KNEVETT'S GIANT RASPBERRY.

RASPBERRIES.—This delicious fruit receives little of the attention its merits deserve. It is hardly possible to purchase a quart of raspberries in any one of our smaller towns or villages. It succeeds the strawberry in ripening, and will well repay the best of care. A cool, moist location on the north side of a fence or a slope is the best; and the soil should be *rich and deep*.

The plants should be set out early in the spring, three to four feet apart, and be kept clean and well cultivated during the season. Each plant should have a stake three or four feet high driven firmly beside it, to which it can be loosely tied. Every spring examine the plants and cut out the old canes that bore the previous year, and trim out the young suckers so as to leave only six or eight canes in each stock. Then take off about a foot of the ends of the shoots that are allowed to remain, and tie them up neatly to the stakes. In September it is well to pinch off the ends of each shoot. This will check the growth, and help to ripen the canes.

As the finer varieties of raspberries are somewhat tender for our climate it is well to protect them in winter, and perhaps the best way is to lay down the canes in the fall, and cover them lightly with soil. If a little earth is placed near the roots on the side where they are to be bent down, there will be no danger of their breaking. We give a few of the best varieties, with descriptions, from R. G. PARDEE'S work:

Fastolf.—This fine variety originated at Fastolf Castle, near Yarmouth, England, where it attained a high reputation, which it has nobly sustained in this country. It is not quite so hard for market fruit as the Antwerp, but is rather soft, and of rich, high flavor, and the fruit is very large, of a bright purplish red, and is a large bearer. It requires winter protection.

Red Antwerp.—This variety has long been the standard sort, both in this country and Europe, and is a very fine fruit. So many spurious sorts are now sold under this name, that it is difficult to obtain the genuine, in many places. The Common Red Antwerp is smaller and round; while the true is large, regularly long conical, dull red, with a rich, sweet flavor. The canes are of good strength when well cultivated, and the fruit ripens early in July. It also requires winter protection.

Knevett's Giant.—We have sometimes thought this variety a better bearer than the Red Antwerp, but we do not know as it has any superiority other than being more hardy. This, however, bears a much larger crop in consequence of winter protection.

THE BLACKBERRY.—Considerable effort has been made of late, to improve the blackberry. The *High Bush* and the *White Blackberry* have both received



NEW ROCHELLE OR LAWTON BLACKBERRY.

some notice, but the only one that really seems worthy of cultivation is the "*New Rochelle, or Lawton Blackberry*." It was discovered in the fields at New Rochelle, on the Hudson River, and brought into garden culture. It was afterwards disseminated by

Mr. LAWTON. It is perfectly hardy, and throws up vigorous, upright shoots, many of them over an inch in diameter, with lateral branches, all of which are covered with fine berries, a portion of them ripening daily, in moist seasons, for six weeks. They have been found so large that 72 filled a quart.

THE CURRANT.—This is perhaps the most valuable of all our small fruits. It can be used in so many ways, ripe or green, bears so abundantly, flourishes so luxuriantly under good care, and bears ill usage with such a good grace, that we consider it indispensable in every garden, large or small. It may be cultivated either in the form of a bush or of a small tree, and all old and superfluous wood should be cut out, and the suckers removed. Thorough manuring, with proper pruning, will produce you abundance of fine currants. When the plants are six or seven years old they should be replaced by young ones.

men have been selling gooseberry plants, either imported from England, or propagated from English sorts, for the last fifteen or twenty years, and yet gooseberries are as scarce now as ever. It is hardly possible to purchase a quart of gooseberries in any of our markets. And yet the plants should come to perfection in two or three years. We have no doubt that for every bushel of gooseberries raised in this country, from English sorts, \$300 have been spent for plants. This is rather a dear joke, and unless some method is devised for growing fruit free from mildew, it would seem well to abandon the thing for a while.

In England, the gooseberry is the favorite fruit of the poor. It bears enormously, and almost under any treatment, and is a popular and delicious fruit. Here it is quite different. We have seen miserable specimens exhibited and named, at our horticultural



HOUGHTON'S SEEDLING GOOSEBERRY.

The *Black Naples* is said to be the best black currant. The *Black English*, with proper culture, is very fine.

The *White* and the *Red Dutch* are fine and productive.

The *White Grape* is a good white currant.

The *Cherry Currant* is the largest of all red currants, but rather sour for our taste.

The *Victoria* is a fine and distinct variety, both in fruit and foliage. The bunches are remarkable for their length, frequently measuring six inches, and numbering thirty berries and upwards in a bunch. The fruit is in size between the Dutch and the Cherry. The color is a very light, beautiful red, and in season it is later than any other.

THE GOOSEBERRY.—In England this is the finest and most popular of all the small fruits. The climate of this country is not adapted to its culture, and the English varieties almost invariably mildew. Nursery-

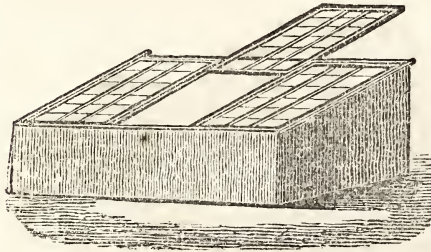
shows, all covered with mildew, that would be thrown away in England. Occasionally statements are made in the agricultural journals, that some person has discovered a remedy, and succeeded in growing gooseberries free from mildew. But the remedy that succeeds in one place and season, fails in others. There is, however, an American variety called *Houghton's Seedling*, which is less subject to the disease than any other. Berries rather below medium size, oval. Skin thin, reddish-brown. Flesh very fine, tender, and sweet. Those who desire to plant should give this the preference.

FRUIT IN OREGON.—A correspondent of the *Country Gentleman* states that the fruit crop of Oregon for 1854 sold for \$200,000. One grower, whose oldest trees were brought across the plains ten years since, and then no larger than pipestems, sold his crop in San Francisco for the sum of \$20,000.

FARMERS' HOT-BEDS.

WHEN we consider how easily a hot-bed can be made, it is surprising how few farmers avail themselves of its advantages. Our seasons are so short, and we have occasional frosts so late in the spring, that without a hot-bed or a cold frame, it is impossible to have a good garden. With it, every farmer may have his table constantly supplied with the most delicious vegetables of the season, without any expense except a little care and attention.

Hot-beds should be placed in a dry situation, exposed to the east and south, and protected by fences or buildings from the north and north-east. A hole 2 to 2½ feet deep, and a little larger than the frame, should be dug and filled with fresh horse manure, treading it in pretty solid to prevent too rapid fermentation. The manure should be almost two feet higher than the ground, and level at the top. As soon as it has settled somewhat, and commenced to heat, the bed should be covered with light mold from six to eight inches deep, according to the plants to be grown.



A frame 9 feet long and 6 wide, with three sashes, each as is shown in the annexed engraving, is a convenient size. Every farmer should have two of them, one of which could be used as a hot-bed, and the other as a cold frame.

Celery is a most delicious salad, seldom grown by American farmers. It requires but to be known to be appreciated. The great difficulty in getting good celery lies in the great length of time required for the germination of the seed, and the slow growth of the plants while young. To obviate this, the seed should be sown this month in a hot-bed. A square foot of the hot-bed would be enough to start all the plants required. Five seeds in a square inch is not too thick. When from one to two inches high, the plants should be pricked out into the cold frame, and when four or five inches high they should be transplanted into a warm border. Some will object to so much labor, but it is the only way to get strong, stocky plants. Of their subsequent management we will treat in a future number.

A few radishes and lettuce should be sown early in March. The former will be large enough to eat, and the latter can be transplanted into the cold frame in time to allow tomatoes, melons, &c., to be sown after them.

Cauliflowers, cabbage, &c., may be sown any time this month in the hot-bed, and when two or three inches high, if the weather is not warm enough for them in the open ground, they should be transplanted into the cold frame. From this they may be set out on the ground where they are to remain, or what is better, they can be transplanted into a warm border,

where they will become strong, hardy plants, and in the mean time the ground can be made ready for them.

The hot-bed will require daily attention. Sometimes a few minutes neglect, when the heat is steaming up from the fermenting manure beneath, and the sun's rays pouring down from above, is sufficient to scorch and destroy the plants. The seeds should not be sown till the bed has attained a moderate and steady heat. Afterwards, the temperature of the frame should be kept as uniform as possible. At night the frame should be covered with a mat or blanket, and on warm, sunny days the sash should be put partially down so as to admit plenty of fresh air. If the day is cold, the frame must be kept close. The soil should be kept thoroughly moist, but not too wet. The water ought not to be used cold from the well, nor in large quantities at a time, but should be slightly warmed and applied in the evening with a fine-roved watering-pot.

Celery, lettuce, cauliflowers, cabbage, and other plants which are transplanted without difficulty, may be sown in the loose, light, thoroughly decomposed mold of the bed, but melons and cucumber seeds should be planted in small blocks of inverted turf, with an inch or so of loose mold. The roots of the young plants penetrate into the turf, and the plants and turf can be removed together into the open ground without checking the growth of the plants.

CHOICE VEGETABLES.

For some years past we have taken particular pains to import into this country the rarest and best vegetables of Europe. Among the best varieties that we have had the pleasure of introducing, we will name and describe a few worthy of general cultivation.

Early Paris Cauliflower.—This is an excellent variety of a superb vegetable, and is peculiarly adapted to our climate. It forms beautiful large white heads, and will "head" as readily as cabbage, and is in every way as easily raised. We have cultivated the variety for four years, and the more we know of it the more we prize it. Beautiful specimens from seed imported by us, were exhibited at the last exhibition of the Horticultural Society of the Valley of the Genesee, and after taking the premium, and receiving special notice from the committee, were sold at a high price. Every market gardener, and every one who grows vegetables for family use, should grow the *Early Paris Cauliflower*.

The Lenormand Cauliflower.—This is a rather larger and later but superb variety, and is also well adapted to culture in this climate.

Early Oval Rose Radish.—This is a beautiful early radish. It is mild, tender and crisp, and bears no more resemblance to the tough things that are commonly sold for radishes, than a "choke-dog" pear does to a fine *Virgalieu*. It is an excellent variety for forcing in hot-beds.

Chinese Rose Winter Radish.—This is the finest winter radish. It is of a beautiful deep rose color, and of excellent flavor. It should not be sown until about the time of sowing turnips. For winter use they should be covered with earth in the cellar, and they will keep fine and crisp until spring.

Early French Short Horn Carrot.—This is the best carrot grown for the table. Its flavor is pecu-

liarily mild and sweet, and it is prized by the French for soups.

For a number of years we have imported a small supply of these seeds, but not half enough to supply our friends. This year we ordered a larger quantity, and have just received direct from the establishment of Messrs. VILMORIN & Co., Paris, France, a fine collection of both vegetable and flower seeds, a list of which may be found in our advertising columns.

COAL ASHES FOR FRUIT TREES.—A correspondent of the *Homestead* recommends those who are troubled to get rid of coal ashes to sift them every morning round the base of fruit trees and shrubs. He says:

"There is some virtue in them as manure, and there is also the benefit of their protection against changes of temperature. I believe it is generally admitted that frost, of itself, does not injure trees or shrubs, or vegetables, but that it is generally the alternation of cold and warmth—freezing and thawing—which does the mischief. Now if a suitable body of ashes be deposited around a tree, say some three or four inches (or more) in depth, directly around the collar, and gradually slanting off, it soon settles down into a compact mass. This not only prevents the penetration of frost, but diverts any superabundance of moisture caused by the falling rains and thawing snows of late winter and early spring.

"In many cases a coating of manure is to be recommended as a first application, to be followed by a coating of sifted ashes.

"The presence of snow on the ground is no obstacle to the deposit of the siftings, and the work should be regularly pursued in all weathers throughout the winter.

"An apple tree in the garden of a friend, hitherto unproductive, bore an abundant crop last year. Other causes may have produced this result, but in my opinion it was chiefly in consequence of the fact that his coal ashes were all sifted, *by mistake*, around the base of this one tree.

"Our peach and apricot blossoms are often blasted by the frosts which sometimes occur quite late in the spring. My theory is that the danger may be obviated by retarding the blossoming of the trees, and I know of nothing better for the purpose than coal ashes, applied as above indicated, and suffered to remain until late in the season."

McDOWELL'S RHODODENDRON.—The January number of the *Horticulturist* gives an engraving of a new Rhododendron, found by Mr. McDOWELL in Macon county, N. C. It grows to the height of four or five feet, and is easily transplanted and cultivated. It is stated that no American flower exceeds this in beauty, and in magnificence it is second only to the Magnolia. Its color is a bright crimson, approaching scarlet, and the panicles are composed of twenty or thirty flowers, forming a conical mass as large as a man's head. The leaves are evergreen, of a deep color. The spot where found is on the top of almost inaccessible mountains.

GRAPE CUTTINGS.—A well known grape grower of Cincinnati, ROBERT BUCHANAN, says that he sold last year from his vineyard, 14,000 cuttings, and thinks that the whole number sold in one season would number 2,000,000 cuttings and 300,000 stalks.

COLD WEATHER AND THE FRUIT BUDS IN THE WEST.—We have received a great many letters from various parts in the Western States, expressing the belief that the cold weather from the 8th to the 12th of January has killed most of the peach buds. In several parts of Wisconsin the thermometer descended 20° below zero. At the present writing (January 25) the peach buds are believed to be all right in Western New York. Our coldest night was 12° below zero. The Ohio *Cultivator* says:

"It is generally admitted that the weather on the 9th inst. was the coldest ever known throughout Ohio. The mercury in some parts of the State descended to 18° or 20° below zero, as is known by reliable reports from Cleveland, Sandusky, Cincinnati, Columbus, Delaware, and numerous other places. This is an average of several degrees colder than the cold snap in January, 1852, although in this vicinity, and in several other parts of the State, we think the degree of cold was nearly as great at that time as this.

"It is too soon as yet to speak with certainty of the effects on fruit buds; but from past experience, as well as present appearances, it is probable that peach buds are generally killed, and some of the trees much damaged. Apples and other hardy fruits we hope are uninjured."

HORTICULTURE IN WESTERN NEW YORK.—The *Year Book of Agriculture* says:

"The progress made from year to year in the cultivation of fruit is a marked feature in American agriculture and economic industry. It is stated that at least one thousand persons, in the vicinity of Rochester, New York, alone, are employed in the cultivation of fruit trees, the sales of the products of whose labor amounted, in 1854, to half a million of dollars. More fruit trees, it is also said, are raised in Monroe county, New York, than in all the United States besides, and these find a market in every district from Maine to the interior of California. Indeed, throughout the whole of Western New York, fruit is rapidly becoming one of the staple productions."

APPLES THE SHEET ANCHOR OF AMERICAN AGRICULTURE.—The *Rural New Yorker* says:

"Speaking of apples, H. T. Brooks, Esq., President of the Wyoming County (N. Y.) Agricultural Society, expresses the opinion that apples may be to American husbandry what turnips are to that of Great Britain, and his experiments in feeding them to his domestic animals, justifies a high opinion of their value. They can be grown with greater ease and certainty, at any rate."

How many bushels of apples can be obtained from an acre of good, thrifty, well-managed trees, taking one year with another? Will some of our correspondents answer?

MAXIMS—Generally speaking, the smaller the quantity of fruit on a tree, the higher the flavor; therefore, thin all fruits in moderation, but avoid excess; a single gooseberry on a tree or a single bunch of grapes on a vine—no matter how fine it may be—is a disgrace to good gardening.

Though rapid growth is desirable in succulent vegetables, this is not the case with most flowering shrubs, which form bushy, and therefore handsomer plants when grown slowly.

PLANTING SHADE TREES.

MESSESS. EDITORS:—It is one of the distinguishing features of the tillers of the soil, to exercise a more fraternizing feeling than that of any of the mechanical branches, in imparting information for the public weal. Happy for our calling, few, if any, enlightened minds fear the result individually, of imparting "secrets of the trade," and thus all profit by a general interchange of ideas and experience. True we sometimes find screwed up souls, who on telling some little trick, that makes so and so work easy, expressly desire the information to be kept for the benefit of *us*, with strict injunctions not to make it common property to the world by publishing it in the *papers*. It is needless to say this injunction is too exclusive—if it is worth knowing—to prevent departing from such confidential advice.

Now, Mr. Editor, this is a terribly rambling statement, as we have certainly no new dogma to propose, and started merely with the intention of saying a few words on planting shade trees, preceding it by some sort of introductory remarks.

There is nothing new in what follows, and all are perfectly familiar with the details of planting trees who lay any claim to the first principles of gardening. For such it is not written, but for that large class of persons who select a very large tree with very small roots, and expect to soon luxuriate under its pleasant shade. We will relate a case in point which occurred some two years ago. A gentleman in this city, well known for his rare talents, though not in this sphere, on ascertaining some fine shaped shade trees growing on this place were to be removed, expressed a desire to obtain three of them if they *would grow*. On being informed if properly removed and replanted there would be no difficulty about their growing, began already to anticipate the delightful shade they would soon afford his naked dwelling, though several ineffectual attempts had previously been made at planting. The trees being some fifteen feet or more high, and robust, some care was necessary in the removal to ensure success. A trench was commenced some four, or five feet from the bole of the tree, and the soil gradually worked from the roots, especially the fibres, with a fork, breaking as few as possible, till the whole was laid bare. After the trees were all up, the gentleman in question coming along, was surprised to see so many roots, and to our horror, proposed to cut off most of them, or double them up in planting, as the stone he proposed taking up in the side-walk would only allow a *small hole* for the roots. Here then, laid all his previous difficulties; the roots having to be cut in conformity to the size of the hole rather than disturb the flag-stone. Being inexorable as to the way of planting, if at all, the stones were removed, and place sufficiently large was made to take all the roots comfortably, some fresh soil added to ameliorate the "Albany clay," and now he would not take fifty dollars for his trees.

So much for a little extra but necessary trouble. The principal reason why so many shade trees are planted, and yet so few ever thrive and become trees, is owing to the mania for large trees, whether the roots are proportionable or not. If all those who contemplate planting a shade tree in front of their dwellings, would seek for trees with plenty of roots, rather than a large head, and carefully dispose those roots in the fresh soil, and if poor in its nature, bringing

a little fresh to mix with it, for which nothing is better than street earth laid by some time to sweeten, they would have the satisfaction of ascertaining that such extra care is compensated by success, while the reverse will as surely follow the opposite treatment. EDGAR SANDERS—*Albany, N. Y.*

RAISING FRUIT FOR MARKET.

MESSESS. EDITORS:—At the present time there seems to be a perfect mania created for fruit raising. Our nurseries are propagating and sending out their millions of trees annually, and large numbers are rushing into fruit raising. Our horticultural societies are adding fuel to the flame, and urging farmers to abandon wheat and grain culture, on which our portion of the State has grown rich, and turn their attention almost exclusively to fruit raising. Who has forgotten the Multicaulis and Tree Corn rage, or the later Shanghai fever? Almost every year something comes up to work on the excitable natures of the "universal Yankee nation." Many of these are valuable, and if judiciously managed, may be productive of great profit. It is the same with fruit culture. I have no doubt that farmers may largely increase their orchards, especially of those kinds not perishable. Judiciously managed they may be made the most profitable portion of the farm. But does not reason and experience show the fallacy of the position taken by some leading nurserymen, that if all Western New York were stocked with orchards, the market would still be good. I have no doubt that the demand will increase, and new markets be opened every year, but not in ratio with the supply, if all farmers rush headlong into fruit growing.

The proper and reasonable course, and in the end, the most profitable one, would be, if a farmer has a farm well adapted to grain growing, and is himself well acquainted with growing grain, to continue in the course that has made himself and this part of the State wealthy—in fact, to let "well enough alone." And on the other hand, should grain fail, and fruits succeed, we might then with profit engage largely in fruit culture. I do not by any means wish to discourage judicious tree planting, but on the contrary, hope to see proprietors of small farms, mechanics and laborers, set out sufficient trees to supply their families, and meet the market demand. I have for many years tried to influence this class to set out more trees. Some of them, I am glad to say, take pride in beautifying their homes, and stocking their land with trees for family luxury, but very many of them show a lamentable carelessness in this respect. May not all good citizens speed the time, when every one who possesses a few rods of ground may sit under his own vine and fruit tree, and enjoy unmoistened the luxuries of his own hands. F. W. L.—*Greece, N. Y.*

[We agree with our correspondent that it would be unwarrantable, at the present time, for the farmers of Western New York to abandon grain growing and turn their attention exclusively to the culture of fruit, but a great demand exists for the best varieties of long-keeping Apples and Pears, and such sorts may be very generally planted with flattering prospects of producing remunerative results.—Ed.]

Those who have Lima beans not sufficiently ripened for seed, will find them excellent for the table.

Ladies' Department.

SPRING AND FLOWERS.

"The stormy March is come at last,
With wind, and cloud, and changing skies;
I hear the rushing of the blast
That through the snowy valley flies.

* * * * *

But in thy sternest form abides
A look of kindly promise yet;
Thou bring'st the hope of those calm skies,
And that soft time of sunny showers,
When the wide bloom on earth that lies,
Seems of a brighter world than ours."

The storms and frosts of another winter are almost at an end. Old winter, with his stern countenance and whitened locks, is retreating before the smiling face of spring. The warm sun and showers of April will soon warm into life the vegetable world. The present is the time to make the necessary arrangements for your garden the coming season. Study the subject a little, and procure the seed you will want to plant, so that when the proper time arrives there may be no confusion or delay. Many, when they see the fine gardens of their neighbors, resolve that another season they too will embellish their homes with flowers, that will signalize it as the abode of taste and refinement; but when the spring arrives, for want of proper forethought and timely preparation, it is allowed to pass unimproved until it is too late. A timely hint will, at this time, be sufficient.

A lady asks information as follows:

MR. EDITOR:—I live on a new place. Our house was only finished last fall; consequently I have nothing but bare ground, which will look barren and unpleasant enough in the spring. Now, I want to make it look as possible next summer, and therefore would like to plant those things that would grow quick, and make a show as soon as possible. Any advice you can give me that will aid me in accomplishing this object, will be of advantage to me; and I have no doubt there are others of your readers similarly situated, that would be thankful for the information I seek. E. L.—*Brantford, C. W.*

It is with pleasure we receive and answer all such communications as the above. Our correspondent must not feel so anxious to have a fine show the coming season, as to neglect planting those things, that, though of but little account in the general appearance the first year planted, so well repay, in after years, for the labor bestowed upon them. For a show of flowers the first year, you must depend upon *Annuals*. We have given descriptions of them in previous volumes of the *Farmer*, and in the *Youth's Department* of the present year will be found descriptions of some of the best. The Balsam, Aster, Ten Week Stocks, Phlox Drummondii, Petunia, Portulacca, Convolvulus, Cockscomb, &c., will furnish you a beautiful show of brilliant flowers nearly the whole season, and with little labor. Some other desirable varieties you will also find advertised in our list of seeds recently sent us by L. VILMORIN, of Paris.

Another lady writes us as follows:

"Do, MR. EDITOR, recommend the ladies to plant those most beautiful of all plants the Climbing Roses and Shrubs. The *Ayrshire* and *Prairie Roses* cannot

be excelled for beauty, and then there are the *Honey-suckle*, the *Chinese Wistaria*, the *Bignonia*, and many others that should be more generally planted."

Nothing in the vegetable world do we consider more beautiful than the climbing and trailing shrubs. We admire and love the beautiful and graceful drapery of nature. How useful, too, in the hands of the gardener, in covering an unsightly fence or out-building. Then climbing shrubs will make beautiful that which was unsightly and offensive.

HINTS FOR HOUSEWIVES.

BREAD FROM GROWN WHEAT.—Place the flour in a pan under the stove, or where it may become hot, and keep so for five or six hours, until thoroughly dried through. Knead the dough harder by working in more flour, and bake slower and longer, so as to dry out the moisture, and you will have light dry, white bread. A little alum will improve it, if the wheat was badly sprouted.

The editor of the *American Agriculturist* says he has seen bread made from new grown wheat, according to the above recipe; it was "free from clammy moisture, and of good quality."

SALT IN STARCH.—Our wife informs us that putting salt in starch, while it gives the clothes a good appearance and makes them iron smooth, is destructive of the cloth, and should never be practised. The same piece of linen was divided and used in two families, in one of which salt was added to the starch. In this family the linen failed very soon, while in the other it wore remarkably. Other circumstances confirm the opinion that it was the salt that produced this result. We use a bit of spermaceti, or a piece of lard as large as a small chestnut, in a quart of starch, and consider it a great improvement.—*Homestead.*

RECIPE FOR JOINING GLASS.—Melt a little isinglass in spirits of wine, and add a small quantity of water. Warm the mixture gently over a moderate fire. When mixed by thoroughly melting, it will form glue perfectly transparent, and will re-unite broken glass so nicely and firmly that the joining will scarcely be perceptible to the most critical eye. Lime mixed with the white of an egg forms a very strong cement for glass, porcelain, &c.; but it must be done neatly, as when hard, the superfluous part can not easily be smoothed down or taken off.

TO CLEAN COMBS AND BRUSHES.—To enough tepid water to cover the bristles, not the top of the brush, add a few drops of the spirits of hartshorn, an ounce of which may be had for sixpence at any apothecary's; dip the brush several times, shaking out the water carefully, and the mixture will act like magic, leaving it clean and pure, needing only to be dried by a towel, no rubbing it needed. Combs may be done in the same way without injury.

JOHNNY CAKE.—1 pint of sour milk, 1 egg, 1 spoonful of molasses, 2 spoonfuls of wheat flour, Indian meal sufficient to make a light batter, 1 teaspoonful of saleratus, dissolved in warm water.

BLACK WEDDING CAKE.—2 lbs. brown sugar, 2 lbs. butter, 2 lbs. flour, 24 eggs, 14 lbs. currants, 6 lbs. raisins stoned and chopped a little, 2 wine glasses brandy, $\frac{1}{2}$ lb. citron, 4 nutmegs, $\frac{1}{2}$ oz. mace, cloves to your taste.

WHITE WEDDING CAKE.—1 lb. flour, 1 lb. pulverized loaf sugar, $\frac{1}{2}$ lb. of butter, 1 lb. of the white of eggs, 3 nutmegs, oil of lemon to your taste.

Youth's Department.

GARDENING FOR YOUTH.

ANNUALS CONTINUED.

DIANTHUS CHINENSIS—Chinese Pink.—This plant is a native of China, and was carried to Paris by some French missionaries in 1705. In its foliage it closely resembles the common garden Pink, but the flowers are much more beautiful, as their colors are varied and combined in manners so various as almost to exceed belief. It also differs from the common Pink in being annual; it may, however, be preserved two or three years by cutting off the seed-pods as soon as the flowers begin to decay, and never suffering it to ripen seeds. The seeds may be planted in a hot-bed in March, and the plants removed to the open ground in May, or they may be sown in the garden as soon in the spring as the ground is warm.



LUPINUS NANUS.

LUPINUS—Lupine.—There are many species of this plant, many of which are very beautiful. The White Lupine was cultivated by the ancient Greeks and Romans, as it now is in Italy and other parts of Europe, as an article of food. In the north of Italy and the south of France, it is grown on poor soils and plowed under as a manure, as clover is with us, and it may yet be found a profitable crop for this purpose in this country. Numerous species of this plant are indigenous to the United States, and some of them, if brought into the garden, would prove worthy of cultivation. The *Lupinus nanus*, or Dwarf Lupine, a cut of which is annexed, is a very pretty dwarf plant, with blue or purple flowers intermingled with a tint of rose color and white. It is

a native of California, where it was first procured in 1834. Seeds may be sown during any of the spring months in common garden soil.



PETUNIA PUNCTATA.

PETUNIA.—The Petunia should be found in every good collection of annuals. It is a South American plant, and bears flowers of a great variety of colors, in great profusion and in constant succession until destroyed by the frost. Plants may be propagated either by cuttings or seed.

GOMPHRENA GLOBOSA—Globe Amaranth.—No plant can supply the place of this for winter bouquets. The flowers, as its name (*Amaranthus*—without withering,) indicates, will retain their beauty undiminished for years, justly causing it to be styled by poets, the everlasting flower, fit emblem of immortality. MILTON, when speaking of angels assembled before the Deity, says:

— "to the ground
With solemn adoration down they cast
Their crowns, in-wove with Amaranth and gold;
Immortal Amaranth, a flower which once
In Paradise, fast by the tree of life,
Began to bloom, but soon for man's offence
To heaven removed, where first it grew, there grows
And flowers aloft, shading the fount of life.
And where the river of bliss, through midst of heaven,
Rolls o'er Elysian flowers her amber stream;
With these that never fade, the spirits elect
Bind their resplendent locks enwreathed with beams;
Now in loose garlands thick thrown off, the bright
Pavement, that like a sea of jasper shone,
Impurpled with celestial roses, smiled."

The Globe Amaranth has been cultivated from a very remote period. There are three varieties, the white, the red, and the orange colored; the last is a new variety, having been introduced into this country about three years since, and is yet quite rare. Beautiful bouquets for mantel or parlor ornaments can be made with the cereals—wheat, oats, barley, &c., and the common grasses, with the different colored Amaranths intermingled, which will last a year or two in perfection. To grow good plants, the soil in which the seeds are sown should be made quite rich.

Editor's Table.

NEW YORK STATE AG. SOCIETY.—The Annual Meeting of this Society took place at Albany, February 12—14.

There was a good exhibition of fruits, especially of apples; but the show of grains, &c., was not equal to that of last year.

There was considerable discussion in regard to the permanent location of the State Fairs, but nothing was done. The constitution can not be altered, except by a two-thirds vote and a year's previous notice in writing. At the Annual Meeting in 1855, Mr. HALL, of Onondaga, gave notice that at the next meeting he would offer a resolution that the State Fairs be located at "one or more places." The meeting decided that, under the present Constitution, the Fairs always had been, and always would be, held at one or more places, and that therefore it was unnecessary to alter the Constitution in this particular. Mr. CLARK, of Otsego, thought the meeting had "dodged the question," and notices of several motions were given, which will again bring the subject before the Society at the next Annual Meeting.

The committee appointed to nominate officers for the ensuing year, and to name a place for holding the next Fair, reported as follows:

President.

THEODORE S. FAXTON, Utica, Oneida county.

Vice Presidents.

1. JONATHAN THORNE, New York.
2. EDWARD G. FAILE, Westfarms, Westchester county.
3. HERMAN WENDEL, Albany.
4. WILLIAM KNOX, Canajoharie, Montgomery county.
5. ENOCH MARKS, Camillus, Onondaga county.
6. FRANCIS M. ROTCH, Lewisville, Otsego county.
7. D. W. C. VAN SLYCK, Lyons, Wayne county.
8. ALONZO S. UPHAM, Le Roy, Genesee county.

Executive Committee.

HUGH CROCKER, Utica.
C. S. WAINRIGHT, Rhinebeck, Dutchess county.
GEORGE J. J. BARBER, Homer, Cortland county.
ALARIC HUBBELL, Utica.
JAMES BRODIE, Ellisburgh, Jefferson county.

Corresponding Secretary.

BENJAMIN P. JOHNSON, Albany.

Recording Secretary.

ERASTUS CORNING, Jr., Albany.

Treasurer.

BENJAMIN P. KIRTLAND, Albany.

They recommended Utica as the place to hold the next Fair. It was proposed to strike out Utica, and insert Watertown. The question was put to the meeting, and carried. The next Fair, therefore, is to be held at Watertown. The officers were unanimously elected.

On Wednesday evening, Dr. FIRCH delivered an interesting and instructive lecture on Entomology. He stated that in Egypt, and other eastern countries, where insects are so terribly destructive, the government employed persons to destroy their eggs. Versailles expends \$4,000 per annum for this purpose. It is necessary to understand the habits of the insects, before means can be adopted for their destruction. In regard to the parasite which keeps the wheat midge in check in England, and to which he alluded in his lecture before the Society in 1855, he stated that he had corresponded with entomological societies in England, and that they would endeavor to obtain some of these parasites and forward them to this country. The chintz bug, during the last year, had been very injurious in

Illinois, Michigan, Wisconsin, and other western States, destroying not only wheat, but corn, and was more injurious than the wheat midge. Some have set fire to their crops, in order to lessen the number of bugs the coming season. The mildness of the weather in these States favors their propagation. The cut-worm, which severs corn plants, is imperfectly known. It is not the sluggish creature which those who have seen it only in the day-time suppose. In the night they are active, and crawl from one field to another. A single furrow around the field would form a barrier over which few would be able to pass.

The lecture was listened to with great interest.

On Thursday evening, S. W. JOHNSON, Esq., of Yale College, delivered a lecture on Agricultural Chemistry. He thought soil analyses of little or no practical value. We must look to experiments in the laboratory and the field combined, for the development of new principles in agriculture. In Europe, there are a great many "experimental stations," with laboratories attached, which are doing great good. In Saxony alone there are four. We need such here. Our present "model and experimental farms" have not, as yet, made one judicious experiment—one that *could*, by any possibility, demonstrate anything. He alluded to the recent investigations of Mr. LAWES and Prof. WAX, in terms of high commendation, though he thought some of the conclusions drawn from them were not warranted,—it was not *demonstrated* that ammonia was specially beneficial to wheat, and phosphoric acid to turnips. No reason for this opinion was given.

After Mr. JOHNSON's lecture, the retiring President of the Society delivered the closing address, and introduced the President elect, who briefly addressed the meeting, thanking them for the honor conferred upon him, and promising to do all in his power to promote the interests of the Society.

THE NEW YORK STATE POULTRY SHOW was held in Van Vechten Hall, Albany, Feb. 12—14, and was the best we have ever attended. M. M. KIMMEY, of Cedar Hill, Albany county, exhibited 30 coops. His Silver-penciled Ham-burgh fowls were the most beautiful we have seen for some time. He showed a pair of three years old Hong-Kong geese, which weighed 45 lbs.; and a pair of three years old Bremen geese, weighing 42 lbs. By way of contrast, he showed a Bantam hen, four years old, which weighed only ten ounces. His white and grey Dorkings were very fine. THOS. GOULD, of Aurora, Cayuga county, exhibited some beautiful Lop-eared rabbits. Mr. HOWLAND, of Cayuga county, showed some well-marked wild turkies. Game fowls were well represented, as were also the Polands, Black Spanish, Shanghais, &c.

CHINESE YAM.—We trust the communication of Mr. PRINCE, on the *Dioscorea batatas*, will not give our readers the fever. There is no evidence that this plant will prove "a substitute for the potato," or that it will be a valuable addition to the esculents of the country. The price charged for them (one dollar each) is extravagant. Another year it will probably be more reasonable. In proof of this, we would say that they are now selling in Paris at *six cents* each. We received some roots at that price a short time since, and shall be able to speak more decidedly after another season.

PRIZE ESSAY ON GRASSES.—The New York State Ag. Society, at their last annual meeting, awarded a prize of \$40 to SANFORD HOWARD, editor of the *Boston Cultivator*, for an essay on Grasses and Herbage.

MASSACHUSETTS HORTICULTURAL SOCIETY.—We are indebted to EBEN WIGHT, Esq., for *Reports of the Committees for 1855 of the Massachusetts Horticultural Society*. We give a few extracts:

"Pears.—During the past season we have had an exhibition of all varieties of pears grown on quince, equalling in size, fairness of skin, and flavor, the best specimens ever shown in former days. In some instances, the growers attribute the result to a free use of De Bure's superphosphate of lime,—in others, to the liberal use of ground bone. Without a free use of some kind of manure, and good tillage, we should not expect a good return."

The following varieties are said to "have more than sustained their former reputation:"

"Easter Beurre, Beurre Clairgeau, Beurre Sterckman, Doyenne Sterckman, Glout Morceau, Beurre Langlier, and Beurre Superfin."

"Blackberries.—During the past season, Blackberries have been shown in abundance, and of superior size. The High-Bush is the variety which has been the most abundant; there were but few of the Lawton. Of this latter we have too little experience to pronounce on its merits; of its fruitfulness there seems to be but one opinion, and should its flavor, size, and solidity for market, prove equal to the High-Bush, it will find a ready sale."

Grapes.—J. FISKE ALLEN says:

"Of hardy grapes, the Isabella and the Diana have been, as heretofore, the favorites. The last named well rewards the careful cultivator for his extra attention in cutting out surplus bunches and all small berries."

C. A. BRACKETT says:

"The Diana, with me, has proved a great grower and free bearer—the bunches of good size, and the berries large, some of them measuring seven-eighths of an inch in diameter. It is a matter of surprise that this, the most delicious of our native grapes, should have received so little attention, while new varieties, greatly inferior to it in point of flavor, have been heralded as the greatest acquisition to our list of hardy vines."

The committee say:

"The Diana has this year proved early, and superior to any former year; and we can recommend this variety, believing it will not fail to give a good crop in any season. Mrs. DIANA CREHORE presented a fine display of extra fine bunches and berries, from the original vine."

Of the Delaware grape it is said:

"The Chairman of your committee has had it growing on the same trellis, during the past season, side by side with the Isabella and several other native vines, and while all others were seriously affected with mildew or blight, the Delaware was entirely free."

"Strawberries.—Messrs. HOVEY have exhibited several foreign varieties, for the first time, which, for fruitfulness, &c., give promise of becoming a valuable addition to our already large stock. The Capt. Cook is of a delicious "pine apple" flavor; this and the Bioton Pine, a white variety, proved the most desirable of the several varieties shown."

IRISH AGRICULTURE.—A correspondent of the *London Times*, in commenting upon the progress of Irish agriculture, states that during the past fourteen years the value of farm stock in Ireland has increased from \$10,000,000 to \$175,000,000, and that the number of horned cattle has risen from 2,000,000 to 3,250,000, while the quality has correspondingly improved. Still, however, of the 20,000,000 of acres which Ireland comprises, only about one-fourth is under direct tillage, and fully one-third in pasture.

GUANO ON CORN.—Mr. RALPH BURROUGHS, of Sergeantville, N. J., writes that he had a field of seven acres, half of which he manured with 150 lbs. of guano, and the other half with barn yard manure. The guanoed part was as good as the manured part.

COLD WEATHER AND THE FRUIT TREES.—J. L. GALLOWAY, of Milford, Clermont Co., Ohio, under date of Feb. 20th, writes: "All the Heart and Bigarreau cherries, and almost all kinds of pears, are killed here, by the unusually severe winter. I have lost some three or four thousand trees, worth four or five hundred dollars. Twenty-three degrees below zero was the most severe cold that we experienced here. Peach buds are all killed, but I think most of the trees will survive."

Last winter the thermometer in this vicinity fell to 26° below zero, and though the buds of cherries and pears were somewhat discolored, they survived. We trust such will be the experience of our correspondent.

The *Prairie Farmer*, published at Chicago, under date of Feb. 21st, says:

"There is no longer any doubt in regard to the partial or entire destruction of the current year's growth of many young orchard trees in this part of Northern Illinois. The apple alone seems to have escaped. The pear, when the growth was good, shows the effects of the severe weather even more than the peach, in our grounds."

The *Ohio Cultivator* of Feb. 15th says:

"It is now evident that peach trees have suffered considerable injury throughout the Western country, by the severe cold of the past month. Such has always been the case, we believe, when the mercury has reached as low a point as it did on the 9th and 10th ult.—18 to 20 degrees below zero. * * Cherry and pear trees also are much injured, where young and of thrifty growth, especially those removed the past fall. Many persons have expressed the belief that their peach trees are all killed, because on cutting beneath the bark, they find that the wood is badly discolored, looking like mahogany; but I would caution such not to be too hasty in pronouncing them dead. Wait a few weeks longer, and during next month examine the bark carefully, and see if it has changed color or appears dead. If on scraping the bark on the larger limbs with the edge of a knife, or cutting it slightly, it appears green and plump, you may presume that the tree will recover, even though the small shoots are all killed, and the wood has become dark colored."

It is the general impression in this vicinity that the peach buds are at present uninjured throughout Western New York.

CHURNING ON A NEW PRINCIPLE.—Mr. EDGAR CONKLIN, of Cincinnati, writes us that he has invented a new method of churning. The object of churning being to break the films of casein which encase the globules of butter in cream, he thinks the present process as unwise as it would be to attempt to crack a bushel of walnuts by pounding the heap, instead of one at a time. Instead of beating the whole of the cream at once, with dashers, he proposes to take a small portion of the cream at a time, and, by means of a force-pump, dash it with great force into the body of the cream. He has tried this process, and it works to his entire satisfaction. He has applied for a patent.

D. EDWARDS, writing from Little Genesee, Allegany county, N. Y., Feb. 15, says: "Yesterday was the coldest day ever experienced in this locality. Mercury 30° to 40° below zero, varying in different towns and situations. Snow about two feet deep. No rain since 23d December."

WIND POWER.—A company has been formed which designs to erect and put in operation fifty flouring mills on the Illinois Prairies, next season, propelled by wind power. This will carry mills to the very granaries of the western farmers.

TO OUR CANADIAN FRIENDS.—We shall continue to furnish the *FARMER* to our Canadian subscribers free of American postage.

G. W. HUNT, of Sublimity, Marion county, Oregon, says: "We can say, in all sincerity, for the benefit of the non-takers of the *Genesee Farmer*, that, embarking as we did in the business of farming when young, the *Genesee Farmer* has been hundreds of dollars advantage to us. At any rate, we commenced poor, and have waxed fat from our farm, and have been a subscriber from the commencement. We are living in a house the plan of which we received from the pages of the *Genesee Farmer*, and although a novelty in the country, it just suits our taste."

It is pleasant thus to be reminded that the quiet and peaceful influence and usefulness of the *Genesee Farmer* is not confined to any particular spot, but extends through our wide-spread country, from the Atlantic to the Pacific.

E. S. HAYWARD, Esq., of Brighton, will accept our thanks for a barrel of superior *Northern Spy* apples. They had not been touched since they were put in the barrel last fall, and we found them in excellent condition. Mr. H. thinks the practice of assorting apples every few weeks, not only unnecessary, but injurious. Those apples that are bruised in the fall, will rot to a greater or less extent, but sound apples are seldom injured by contact with decaying ones. The more apples are handled, the more likely are they to get bruised, and consequently to decay. Mr. HAYWARD is one of our most successful and experienced fruit-growers, and his opinion, though contrary to the general impression, is worthy of consideration.

L. G. MORRIS, Esq., of Mount Fordham, Westchester county, N. Y., wishes us to say that the Catalogue of his stock for 1856 will be out next month. He has none of 1855 left.

FORM CLUBS.—We send hundreds of copies of the *Genesee Farmer* to Post Offices where only a single copy is taken. We would ask each of these subscribers to consider himself an agent, and form a club. Those who have sent 50 cents for a single copy, can have a club of five sent by forwarding \$1.50 more, or a club of eight by sending \$2.50 more. Those who have sent \$2.00 for a club of five, can increase it to eight by forwarding \$1.00 more. Let all examine our club terms and premium list on last page.

TO THOSE WHO FORM CLUBS FOR 1856.—We do not ask that all the members of a club should receive their papers at one office. We are willing to send to as many Post Offices as there are members of the club, if necessary for the convenience of subscribers. But where it is practicable, Post Masters would accommodate us by keeping a list of the subscribers at their office, and allowing us to send the whole number to their own address. This saves us the trouble of writing on all the papers. Many have done this the present year.

Our friends ordering the *Farmers* will be particular in giving the names of the Post Office, County, and State; also in writing names plain, as by this much perplexity may be avoided to ourselves and subscribers.

AGRICULTURAL BOOKS AND LIBRARIES.—We refer all to our offer of Agricultural Books. We know of no better way in which a young man could obtain a few good Agricultural Books than by obtaining subscribers to the *GENESEE FARMER*. The fall and winter months afford leisure, and the price of the *FARMER* is so low and its merits so well appreciated, that few will refuse to subscribe if solicited. We will send specimen numbers and show-bills to all who apply.

BOUND VOLUMES.—The volumes of the *Genesee Farmer* from 1847 to the present time, half-bound in sheep, for sale at this office at 62½ cents per volume. In addition to the price of the volume, those who order them to be sent by mail should inclose twenty-five cents for each copy, to prepay postage.

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY FOR 1856.—Copies of this work will be sent by mail free of postage to any one remitting to this office the price of the book—paper cover, 25 cents: cloth, 50 cents.

Notices of New Books, Periodicals, &c.

JOURNAL OF THE U. S. AG. SOCIETY.

We are indebted to MARSHALL P. WILDER, Esq., President of the U. S. Agricultural Society, for a volume of its Transactions for 1855. It contains a report of the Annual Meeting of the Society held at Washington, D. C., Feb. 23, 1855, and of the Third Exhibition of the Society held at Boston, Oct. 23–27, 1855. These occupy 201 of the 261 pages of the book. Then we have an article written by the late C. P. HOLCOMB, of Delaware, being a labored attempt so show that the Reciprocity Treaty, which permits Canadian wheat to come into this country duty free, is a gross injustice to American farmers. Then comes another article in favor of high duties on foreign goods, by JOHN JONES, of Delaware, and which occupies 4 more pages. Then we have 3 pages about a crop of Poland oats—the only practical article in the whole book, and this will be found in the *Transactions of the New York State Ag. Society* for 1854. Then follows 40 pages occupied with a list of the members of the Society. Such is the Journal of the United States Agricultural Society for 1855. Comment is unnecessary.

THE ATTACHE IN MADRID: or Sketches of the Court of Isabella 2d. Translated from the German. New York: D. APPLETON & Co.

This work embodies the most valuable information, written in a charming style, in reference to modern Spain and Spaniards, that we have ever had the pleasure of perusing. The writer saw every thing, from the private levee to the public bull-fight; from the moonlight dance of Manolas to the regal balls of the Duchess d'Alva; from the needle-work of the Spanish maiden to the glorious paintings of Titian, Velasquez, and Murillo; and he has put upon paper all that was worthy of record, which came under his notice. But this is not all; he has given us a kind of political history of modern Spain.

For sale by D. M. DEWEY, Rochester.

RACHEL GRAY. A Tale Founded on Fact. By Julia Kavanagh, author of *Nathalie*, *Madeline*, *Grace Lee*, &c. New York, Appleton & Co. 1856.

The readers of *Grace Lee*, *Women of Christianity*, and other works of Miss KAVANAGH, will anticipate much pleasure from the perusal of Rachel Gray. We venture to say they will not be disappointed. The *London Athenæum*, one of the most fastidious of critics, pronounces it "a charming story," one which "no one can read and not feel a good influence from it." D. M. DEWEY, of this city, has it.

THE CITY ARCHITECT. A series of Original Designs for Dwellings, Stores, and Public Buildings, adapted to Cities and Villages. Illustrated by drawings of Plans, Elevations, Sections, Details, &c. By William A. Ranellet, author of *Cottage Architecture*.

This is a valuable work for those for whom it is designed. Published in monthly parts by DEWITT & DAVENPORT, 162 Nassau St., New York, Price 50 cts. per number.

ERNEST LINWOOD. A Novel by Caroline Lee Hentz. Boston: John P. Jewett & Co. 1856.

An exciting and well written story, by an accomplished American authoress, whose death we have just been called to mourn.

NEW MUSIC.—HORACE WATERS, the great Music Publisher and Piano Dealer, 323 Broadway, N. Y., has sent us the following popular piece of music:

"JEANNIE MARSH OF CHERRY VALLEY," Song and Chorus—Words by General MORRIS; Music by THOS. BAKER. Price 25 cts.

JEANNIE (who, by the bye, we understand to be no ideal personage) has excited the poetic music of Gen. MORRIS, and furnished new inspiration to the most original and melodious of all our ballad composers. THOMAS BAKER, who has produced an admirable melody,—light, sparkling, and graceful as is the fair theme of both poet and musician. This song possesses all the elements of immense popularity, and will soon be found on every piano throughout the country. For the benefit of our fair readers we copy the words of the song, as written by the General:

Jeannie Marsh of Cherry Valley,
At whose call the muses rally;
Of all the nine none so divine
As Jeannie Marsh of Cherry Valley.
She minds me of her native scenes,
Where she was born among the cherries;
Of peaches, plums, and nectarines,
Pears, apricots, and ripe strawberries!
Jeannie Marsh of Cherry Valley.

Jeannie Marsh of Cherry Valley,
In whose name the muses rally;
Of all the nine none so divine
As Jeannie Marsh of Cherry Valley.
A sylvan nymph with queenly grace,
An angel she in every feature;
The sweet expression of the place,
A dimple in the smile of nature!
Jeannie Marsh of Cherry Valley.

Inquiries and Answers.

(JAMES B. CONSER, Strattonville, Pa.) We know of no such work as the "Rise and Progress of Agriculture." You will find an interesting history of agriculture in Loudon's Encyclopedia of Agriculture.

(M. F. MENDENHALL, Jamestown, Guilford Co., N. C.) The address of B. F. IVESON is Columbus, Georgia. The price of his grass (*Ceratocloa brevistarata*) is \$5 per peck. We have seen statements highly commendatory of it, and others from disinterested parties—among whom we may mention FRANK. G. RUFFIN, the editor of the *Southern Planter*, at Richmond, Va.—that are not so favorable.

CULTIVATION OF BARLEY.—MESSRS. EDITORS:—I notice in the last number of the *Genesee Farmer*, an inquiry respecting barley, from H. C. ELY, Richfield, Ohio. Having had some little experience in the culture of barley, I send you my mode of plowing, sowing, &c.

The soil best suited for this grain is of a light, dry nature, but we raise it here on clay subsoil, with success. I sow as early as the ground can be got into a mellow condition after sowing the oats. We sow at the rate of two bushels per acre. If it is late in the spring, a little more should be sown. A light harrow should be used to cover the seed. Twenty-five to thirty bushels per acre is considered, with us, a good crop. If the land is wet, it is better not to sow until it works fine, even if you have to wait till late in the season. Barley is an excellent crop after potatoes, when the land has been well cultivated. DROWANNAN KNOX, *Mt. Healthy, Ohio.*

APPLICATION OF LIME, &c.—I thank you for complying with my request to give me Prof. WAY's views, which are not as definite as I had led myself to suppose they were. One economical question is still unsettled. How much lime should be used? I know the views of JOHNSTON, and of STEPHENS, and indeed of most other British authors of note. But I had thought that WAY recommended the use of much smaller quantities than they recommend, coming down to a minimum of five bushels. If this quantity be sufficient, it is obvious that it is much better, whether cheapness or rapidity of improvement is considered, to make an annual application. What think you of it? (1)

¶ One or two more questions I would ask you.

How would you use the plastering of old walls from houses? I have several hundred bushels. I know the chemistry of the subject, but cannot find any recommendation of the quantity to be used. (2)

How do you use the compost from dead animals? I have a pile of it. (3)

I think you have misunderstood me in the matter of agricultural chemistry. The science I admire and believe in. The quackery I am always ready to pelt. For instance, you have lately proved what, strange to say, nobody except BOUSSINGAULT has heretofore disputed, that gypsum, in its ordinary condition of dry powder, will not combine with carbonate of ammonia and decompose into carbonate of lime and sulphate of ammonia. I know it as a practical fact, from trial on a large scale, with twenty-five fattening beef cattle. I also thought it would in some cases expel ammonia, because I had injured an experimental plat of turnips by mixing gypsum with guano. With no more chemistry than a gentleman generally obtains at college and retains neatly amid the varied duties and pursuits of life, I have a very high respect for the results that induction, like yours in the case above, will give us, but no confidence in the dicta of men like LIEBIG, whose genius, (and I think he has a great deal of it,) is occasionally prostituted to fame, or still worse, like JOHNSTON, whose vanity and attachment to theory leads sometimes, I fear, to absolute falsification, whilst his ability makes it rather dangerous to attempt his exposure. But I have no opinion of him since his book on America. "*Falsus in uno, falsus in omnibus.*"

(1) Prof. WAY, in one of his lectures, recommended the application of lime in as small quantities as five bushels per acre, as an experiment. "What do we think of it?" We think it is very desirable to make experiments with lime in various quantities, from 5 to 500 bushels per acre; on ordinary soils, we fear 5 bushels would have little or no beneficial effect. So far as our own experience extends, 100 bushels per acre is better than a less quantity, and in many cases 200 bushels is none too much. We found this opinion rather on the experience of practical farmers than on chemical theory. We are well aware that there are many instances recorded where a small quantity of lime has a good effect. C. W. JOHNSON speaking of the application of lime to peaty soils, says: "How excellent such an addition is to these soils, even when applied at the rate of four bushels per acre, has been proved by some extensive experiments of the Scotch planter, the growth of, whose young woods has been very materially and rapidly promoted by merely placing a handful of lime under each plant." *The Farmers' Encyclopedia* says: "The quantity of lime applied per acre of necessity varies with the description of the soil; that which contains most organic matter will, of necessity, bear a larger proportion than that which is more free from vegetable or animal remains. The quantity usually applied is much too large. In Ireland, it is sometimes applied to old pasture lands intended for potatoes, at the rate of 400 bushels per acre, and in some of the moors in Derbyshire, 1500 bushels per acre have been found not too large a quantity. In Scotland the quantity usually applied to light land is 160 bushels per acre; for stiff clay soils, from 240 to 360 bushels. On the stiff clays of the Weal of Kent, the quantity usually employed is about 100 bushels per acre, and that is often repeated every five years on the fallow, before wheat, for

many years." We should be glad of the experience of our readers in the use of lime as a manure.

(2) It may be used in considerable quantity. You need not fear that it will injure the crops, if applied at the rate of 100 or more bushels per acre.

(3) Spread it on to the soil just as it is, and plow it in. Half a ton of animal matter—say a dead horse—would furnish a fair dressing for an acre. We have seen flesh, fish, blood, &c., plowed into the soil in their fresh state with good results. We should prefer, however, to make them into a compost with the soil of old headlands, peat, &c.

HORTICULTURAL.

(J. L. Pendleton, Niagara county, N. Y.) **GRAFTING WAX.**—There are numerous recipes for making grafting wax. One pint linseed oil, one pound of beeswax, and six pounds of rosin, melted together, make a good grafting wax for use in moderate weather. If too stiff, a little more oil and wax should be added; but the wax must not be made too soft, or it will melt and run in the summer's sun. THOMAS says an excellent grafting wax is made of three parts of rosin, three of beeswax, and two of tallow. The wax may be directly applied when just warm enough to run, by means of a brush; or it may be spread thickly, with a brush, over sheets of muslin, or thin tough paper, which are afterwards, during a cold day, cut up into plasters of convenient size for applying; or the wax, after cold, may be worked up, with wet hands, and drawn into thin strips or ribbons of wax, and wrapped closely around the inserted graft. In all cases success is more certain when the wax is closely pressed, so as to fit closely to every part, and leave no interstices; and it is indispensable that every portion of the wound on the stock and graft be totally excluded from the external air. In cool weather, a lantern chafing dish, or hot brick will be found necessary to soften the plasters before applying them.

(H. A., Berlin, Pa.) **DWARF TREES.**—Pears are dwarfed by budding or grafting them on the Angers quince. They will not succeed on the common quince. They have been grown on the "common thorn," and on the mountain ash, but these stocks are far inferior to the quince.

"Can apple trees be dwarfed on the common stock?" Severe root pruning dwarfs them to some extent, but the practice cannot be recommended. For "the mode of raising dwarf trees," &c., see Barry's Fruit Book.

(B. SMITH, Watervliet, N. Y.) **WEeping WILLOWS.**—Take off cuttings from one to two feet long, and from one to three inches in diameter. They should be of young wood, not over three years' growth. Bury them till the ground is ready for planting. Keep the ground free from weeds, and if several shoots start from the cuttings, remove all but one. Let this be the strongest, and next fall you will have trees five or six feet high.

(WM. CLARKE.) **PLANTING PEACH TREES.**—On such deep, rich soil, abounding in organic matter, we should fear that peach trees would grow too rank and too late in the fall. It would be well to put a bed of coarse, sandy stones or gravel under each tree. If you have any dry, gravelly or sandy upland, you can raise good peaches. If your soil is very clayey, try peach trees worked on plum stocks.

(JOHN JONES.) **PLANTING TREES IN A WHEAT FIELD.** We cannot recommend this practice, but if you will or must do it, dig up the wheat for a space of six or eight feet around the tree, and keep it free from weeds by the use of the fork, spade or hoe during summer.

(E. C. S., Orange Co., N. Y.) **BUCKTHORN HEDGES.**—On the rich soil of the west, the Osage Orange is the most popular, but in the Eastern States the buckthorn is the favorite hedge plant. Prepare the ground by plowing and working it deep and well, and if manure or compost can be plowed in, so much the better. Get plants two years old, and set them in single rows six inches apart, or in double rows a foot apart. You will require about 1,800 plants for 100 rods of hedge.

(J. WILLIAMS.) **DWARF PEARS.**—Pears on quince stocks do well on deep, dry, loamy soils. A gravelly soil is not so good. The best dwarf pear orchard we know is on a rather heavy, rich loam, thoroughly underdrained. In fact, with good cultivation, dwarf pears succeed well on nearly all soils.

(B. KINGSLEY.) **MOUNTAIN ASH.**—The seed of the mountain ash will not grow the first year. After washing it out, mix it with light earth and lay it in a heap in the ground, covered three or four inches deep. Leave it there for one year and then sow.

TRIMMING DWARF TREES.—Will you or some of your correspondents give through your valuable paper some useful hints respecting trimming and training dwarf pears and apples. Also information about the China or Japan Potato, its success in America, and where seed can be obtained. C. H. CASE—*Bosquet, C. W.*

We should be glad if some of our experienced correspondents would answer the above inquiries. The seed of the Chinese Potato cannot be obtained in America. The tubers can be obtained from WM. R. PRINCE, Flushing, L. I., and from THORNBURN & CO., New York. See our advertising columns.

FRUIT & ORNAMENTAL TREES, SHRUBS, ROSES, &c., FOR SALE BY JAMES VICK & CO.

THE Subscribers are prepared to receive and execute all orders for Fruit and Ornamental Trees, to be delivered the present Spring.

We are well aware of the impositions that have been practised heretofore by tree agents, but as we intend devoting our entire attention to the business of selecting, packing, and shipping Trees, &c., and not being connected with any nursery, we are determined to hold no other object in view but that of supplying our patrons in every instance with the best article.

We will purchase Trees, &c., only from the most reliable nurseries, attending personally to the selections. If our customers leave the selection to us, we will furnish the varieties best suited to their respective localities. As we are well acquainted with all the nurseries in this State, and know exactly where to find the suitable stock, it is still further guaranteed to our customers that their wants will be supplied in the best manner.

Mr. VICK has been connected with the horticultural community for many years as the proprietor and publisher of the *Genesee Farmer and Horticulturist*, and for many years past, persons from all parts of the country have urged upon him the necessity of forming arrangements that would meet the wants of the public by attending to the selection of orders, seeing the articles packed and shipped, thus affording a guarantee that the requisite attention would be paid to all orders sent forward. In order to meet their views he has formed a copartnership with Mr. GEO. MARSHALL, who has been connected with the nursery business for the past five years, and he begs to assure the public every attention will be paid in every respect to all who may favor them with their orders.

As a still further assurance that we will execute to the letter every wish of our patrons and our ability to meet our engagements, we beg to refer to the following gentlemen:

HON. WASHINGTON HUNT, Ex-Governor of New York.

HON. H. STILWELL, Ex-Mayor of Rochester.

A. KARNES, Esq., Banker.

J. C. CAMPBELL, U. S. Collector.

H. SARGEANT, Dep. "

LEE, MANN & Co., Prop. Rochester Daily American.

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JAMES VICK & CO.,
Rochester, N. Y.

March 1.

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

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An illustrated Treatise on the Propagation and Cultivation of the Grape in the Vineyard, the Cold Grapery, the Forcing House, and Retarding House; also, on the Diseases of the Vine, their Prevention and Cure. Price 60 cents.

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Ichaboe Guano,.....	"	40.00
Improved Superphosphate of Lime,.....	"	45.00
Bone Dust, Ground,.....	per bbl.	\$2.25 to 2.50
" Turnings,.....	"	2.37 to 2.50
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" Mixed fine ground.....	"	2.75 to 3.00
Plaster of Paris,.....	"	1.00 to 1.25
Poudrette.....	"	1.50 to 1.75
Tea-few.....	per ton of 2,000 lbs.	35.00

There is an inferior grade of Peruvian Guano with the Government brand upon the bags, which can be detected by the figure 2 under the weight mark. A. LONGETT,

mar—3t 34 Cliff street, corner of Fulton, New York.

HIGHLAND NURSERIES, NEWBURGH, N. Y.

A. SAUL & CO., in calling the attention of the public to their establishment, deem a lengthened notice unnecessary. They would merely state, that the stock of their nurseries which they offer for sale the coming spring, is full in every department, and of the best quality, including all the recently introduced PEARS, and other fruits, both Dwarf and Standards. Also all the novelties in the Ornamental department, both Deciduous and Evergreen, including the new and rare Conifers, Weeping trees, Shrubs, &c., as well as a full stock of all the leading articles to be had in the trade.

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March—1*2 WM. R. PRINCE & CO., Flushing, N. Y.

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1. To every person who sends us a club of eight subscribers at our regular terms, (*three shillings each*) we will give one copy of the *Rural Annual* for his trouble.

2. To every person who sends us SIXTEEN subscribers at our club terms of *three shillings each*, one extra copy of the *Farmer* and one copy of the *Rural Annual*.

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5. For FORTY, four copies of the *Rural Annual* and one extra copy of the *Farmer*, or, any agricultural book valued at \$1, *postage paid*, or, four extra copies of the *Farmer*.

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In order to excite a little competition among our friends everywhere, as well as to reward them for their voluntary labors in behalf of our journal, we make the following liberal offer. Those who do not get the premiums offered below are sure of the above, so that we have no blanks.

1. FIFTY DOLLARS, in Agricultural Books, to the person who shall send us the largest number of subscribers, at the club prices, before the 15th day of April next, so that we may announce the successful competitors in the May number.

2. THIRTY DOLLARS, in Agricultural Books, to the person who shall send us the second highest list, as above.

3. TEN DOLLARS, in Agricultural Books, to the person who shall send us the third highest list, as above.

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Clubs are not required to be at one post office or sent to one address. We send wherever the members of the club may desire.

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY.—We have just published a very neat little book of 120 pages with the above title. It is devoted to the Orchard, the Vineyard, and the Flower Garden and Lawn: and we shall only express the opinion of all who have seen it, when we say that it is the best little work yet published on the subjects of which it so plainly and carefully treats. Anxious to make the circulation of this useful little work as general as possible, we make the following proposition, to those who form clubs for the *Genesee Farmer*: For FOUR DOLLARS we will send eight copies of the *Genesee Farmer* and eight copies of the *Rural Annual*. For EIGHT DOLLARS we will send sixteen copies of the *Genesee Farmer* and sixteen copies of the *Rural Annual*, and one extra copy of each for the person who gets up the club.

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Nov.—1t.

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Orders should be addressed to JAMES VICK,
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Feb.—41.

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1856.

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THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY.

CONTAINING directions for the preparation of the ground for the Orchard and Fruit Garden, planting, pruning, etc. Also plain directions for making and planting the Lawn and Flower Garden, and a Catalogue of Nurserymen in the United States Canada, and Europe, etc. Illustrated with Sixty Engravings.

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Feb.—St.

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AGRICULTURE AND HORTICULTURE,

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JAMES VICK,

November, 1855.

Rochester, New York.

STEREOTYPED BY J. W. BROWN, ROCHESTER, N. Y.

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HINTS FOR THE SEASON.

ON account of the shortness of our sowing season, everything that can be done to facilitate spring work should be attended to immediately. If not already done, plows, harrows, whiffletrees, clevises, harness, &c., should be put in order. Seed should be prepared, plaster obtained, and everything that can be done should be postponed no longer.

SOWING CLOVER.—Where clover is sown on winter wheat, it is not necessary to wait till the ground is free from snow. Indeed, many farmers prefer to sow clover seed on the top of a slight coat of snow. For our own part, we think it better, under many circumstances, to wait till the ground is in good working condition, and then sow the seed and *harrow it in*. For this purpose light harrows should be used, so light that a span of horses could easily draw three of them, four feet square each. Almost every English farmer has such a set of harrows, for covering small seeds. An active span of horses will harrow from fifteen to twenty acres per day. There need not be the slightest apprehension that such harrows, or indeed heavier ones, will injure the wheat; in fact the experience of German and English farmers, and of those who have adopted the practice in this country, proves that it is very beneficial to the wheat plant.

Spring wheat and oats frequently grow so thick near the ground as to prove injurious to young clover plants. Barley is the best spring grain to sow clover with. Care should be used not to cover the seed too deep. Experiments show that clover seed does best when but slightly covered. Thirteen beds were sown with twenty seeds each, the seed in each successive one being buried a quarter of an inch deeper than the preceding, and varying from the surface of the ground to three inches deep. The following were the results obtained: Of those sown on the surface, 17 grew; of those covered one-fourth of an inch deep, 16; $\frac{1}{2}$ inch, 14; $\frac{3}{4}$ of an inch, 11; 1 inch, 11; $1\frac{1}{4}$ inch, 8; $1\frac{1}{2}$ inch, 4; $1\frac{3}{4}$ inch, 4; 2 inches, 0. From the surface to one-half an inch deep, the seeds mostly came up; but when buried deeper than this many of the seeds were smothered, and at two inches deep and deeper, none came up.

In rotation with wheat, clover alone should be sown—10 to 12 pounds per acre being the usual quantity. But where it is intended to seed the land down for several years, timothy, red top, and other grasses should be sown in addition to the red clover—say for soils of medium quality, 4 quarts or 8 lbs. of red clover, 1 peck of timothy, and $\frac{1}{2}$ bushel of red top.

Some farmers are in the habit of soaking their clover seed in water for a few hours, and then mixing it with plaster till it is dry enough to sow. This, it is said, insures a catch.

SOWING PLASTER.—In Western New York, the use of plaster in conjunction with clover is one of the best means of keeping up or increasing the fertility of wheat farms. It is the general impression—and general impressions are usually correct—that plaster has little influence on wheat, barley, oats, &c., but on clover, peas, and corn it is usually very beneficial. Plaster may be either sown with the clover seed, or in the fall or spring following. The latter is the general practice, but the former has its advocates. There are those who think that when plaster is sown on wheat, with the clover, it promotes the growth of straw to an injurious extent, but however true this may be under some circumstances, we are satisfied that it is not always or even generally so. Some of the best farmers in this county sow plaster on wheat for the benefit of the clover, and are convinced of the advantages of the practice.

An easy way of sowing plaster on clover, and on wheat or any other grain, is to take a one-horse wagon, and place a half barrel or wash tub at the hind end; into this put the plaster. The sower seats himself on a board laid across the box, with his back to the horse; a boy drives the horse at a moderate walk, and the plaster is distributed in the track of the wagon, in a breadth of from 16 to 20 feet. A quantity of plaster may be placed in the fore end of the wagon with which to replenish the half barrel when it is exhausted. In this way a man and a boy will sow as much as six men with pails, and with far less labor.

PLOWING.—It is of course desirable to plow as much land in a day as possible, but it is a mistaken economy to flop over furrows 12 to 18 inches wide, especially for spring crops. Better plow an acre and a half 8 or 10 inches wide, than three acres in this common but unphilosophical manner. The object of plowing is to pulverize the soil, and let in the air and light. On this account, the operation should be deferred till the land is dry enough to turn up mellow for no amount of harrowing and rolling will make a good seed bed on soil plowed when wet. For wheat it is possible to make land too loose and light, but for spring crops little danger need be apprehended on this account. We are earnest advocates of deep plowing, but, if we may use a vulgar phrase, *there is danger of running it into the ground*. It is next to impossible, after land has been flopped over 10 or 12 inches deep, to get any harrows, cultivators, or imple-

ments of any kind, to stir, loosen and pulverize it to this depth. If land is plowed 10 or 12 inches deep every six or eight years, and 6 or 7 inches deep in the interim, and the harrow and the cultivator be freely used to loosen and clean the soil, as good crops will be obtained as when that system of deep plowing is adopted so indiscriminately recommended by some radical agricultural reformers.

Subsoil plowing, or breaking up the subsoil without bringing it to the surface, is almost universally beneficial. Certainly we have never known it injurious, but we cannot say as much for deep plowing. We have had several instances come under our own observation, where the fertility of a soil has been greatly reduced for several years, by plowing it from 12 to 15 inches deep.

BARLEY.—This is the first spring crop which demands the farmer's attention. The earlier it can be sown, after the land can be got into good condition, the better. We have spoken of its cultivation on another page.

OATS.—This is the next crop to be sown. On heavy clay lands, and on low swampy soils, oats succeed better than barley—the former soils, as a general rule, yielding the heaviest grain—the latter the greatest quantity of straw. Two bushels of seed is usually considered sufficient on the latter class of soils, and two and a half on the former. In England, four bushels are frequently sown, and formerly five was not uncommon. There is much said just now about the *White Poland* oat; it is a good variety, but no better, in our opinion, than many others. Indeed, we know those who have sown it for several years, who have abandoned its cultivation. A larger number of bushels per acre, and as great an aggregate weight can be obtained with the common oat as with the *White Poland*. Its greater weight per bushel makes it attractive.

PEAS.—The bug is a great drawback to the profitable cultivation of peas. A year or two since we persuaded a gentleman in this vicinity to grow peas for the purpose of fattening hogs early in the fall. He sowed ten acres, five acres of the Canada gray, and five acres of white peas. An excellent crop was obtained from both kinds. Instead, however, of feeding them to hogs early in the fall, before the bug had time to injure them, he concluded to keep them for seed. They were stacked in the barn, and when threshed in December, he discovered, too late, that the bugs had nearly destroyed the whole. Such has doubtless been the experience of many of our readers, and thousands have abandoned pea culture altogether. But we are still of opinion that on all wheat farms, peas may be grown with profit as food for hogs. They can be fed out the latter end of August, and in September and October, before the bug has injured them to any great extent. Peas impoverish the soil but little. They contain twice the amount of nitrogen of any other of our grains except beans, and thus, while experiments demonstrate that they impoverish the soil but little, their consumption by animals on the farm furnishes a large amount of manure, which is exceedingly rich in ammonia—the substance most needed by wheat and other cereals.

Peas do well on an inverted sod. They flourish with good cultivation, on all ordinary land, though a strong wheat soil, reduced to a fine tilth, suits them best. In England, peas are almost invariably sown in drills about 12 inches apart, and hoed. Although

labor is much higher in this country, we believe the increase of peas will more than pay for the expense of hoeing, while the land will be left clean and in fine condition for sowing to wheat the same fall. Two bushels per acre are usually sown broadcast; if drilled, a bushel and a half will be sufficient, though it is not well to be sparing of seed.

In order to avoid the bug, some writers recommend to sow peas as late as the middle of June. This remedy, although generally effectual, is in most cases worse than the disease. We should sow as soon after the barley and oats were put in as possible. In this way, if the land is in good condition, a heavy crop is obtained, which smothers the weeds, and is ripe in season to allow ample time for preparing the land for wheat. One to two bushels of plaster per acre will generally be found beneficial to peas.

ONIONS.—Farmers pay too little attention to the cultivation of the onion as a field crop. Aside from the peculiar flavor for which it is so much esteemed, the onion contains in a dry state, about 30 per cent. of nitrogenous compound, or "flesh-forming principles." The climate of this country is well adapted for the cultivation of the onion, and we have little doubt that ordinarily as much nutritive matter can be obtained from an acre cultivated with onions, as with any other root crop, except, perhaps, mangel wurzel and carrots. In 1853, Mr. J. LONGFELLOW, of Byfield, Mass., raised on half an acre, 386 $\frac{3}{4}$ baskets of ripe onions, weighing 57 lbs. per basket. This is over 22 tons per acre. AMOS COLE, of Perinton, in this county, has raised "or a single half acre, 368 bushels." Mr. E. BROWN, of Marblehead, Mass., raised 407 bushels on half an acre, or 23 tons per acre. A correspondent of the *Cultivator*, residing at Chester, Orange Co., N. Y., raised in 1850, on nine square rods, 64 bushels, or 1,138 bushels, or 32 tons per acre. This is sufficient to show that onions, regarded simply as a nutritious food, are well worthy the attention of farmers. It is true that in preparing the ground, sowing and weeding, the onion requires more labor than other crops. It is the labor of weeding that farmers most dread. If the land is thoroughly prepared, and manure free from seed is used, and the onions are sown in rows 15 inches apart, and the hoe is run through them as soon as the plants can be distinguished from the weeds, the trouble and expense of weeding is far less than is generally imagined.

Six to eight pounds of seed per acre is usually sown in drills from 15 to 18 inches apart. Some will think this too much seed, but it is better to have too many than too few plants, as it is easy to thin them out, which should always be done, leaving the onions about six inches apart in the rows. Care must be used not to bury the seed too deep. It is desirable to sow as soon as the soil is in good working order. Late sowing is one of the principal causes of scullions. If sown by hand, it is well to soak the seed in tepid water twenty-four hours, and dry it with plaster before using.

PLASTER DAMAGED BY EXPOSURE.—"The qualities in plaster to which its action as a fertilizer are attributable are undoubtedly dissipated, in some degree, by exposure to the weather."—*Ag. Exchange*.

This is "undoubtedly" a mistake. There are no "qualities" or substances that can possibly escape by exposure to the weather.

THE RURAL ECONOMY OF FRANCE AND BRITAIN.

M. DE LAVERGNE, an eminent Frenchman who has devoted much time to the study of Agriculture, and the practical management of his landed property, and who for a time filled the Chair of Rural Economy in the Agronomical Institute at Versailles, has spent much time in the rural districts of England, Scotland, and Ireland, and has given us a most interesting comparison of the rural economy of France and Great Britain.*

Corn, meat, cheese, and wool are the four articles on which the productive powers of British agriculture are concentrated, and the results obtained by modern farming are such, as not only to prove highly beneficial to the community, but to eclipse in a very extraordinary proportion, the agricultural produce, and returns of the most favored countries in Europe. The principal object of M. DE LAVERGNE is to demonstrate the truth of this assertion, and to explain the causes which have produced this result, so highly creditable to the British farmer.

The extent of land under cultivation in France bears to the land under cultivation in the United Kingdom, the proportion of three to two. England proper, contains about thirty-two million acres, a little more than a third of the total extent of the British Isles, and one-fourth of that of France. France does not possess an equal extent of well cultivated land. Some detached districts, especially in French Flanders, may be equal or even surpass it in fertility, but "thirty-two million acres equal in cultivation to the thirty-two million acres in England, France does not possess." Yet neither the soil nor the climate of England can claim any pre-eminence over France; on the contrary some of the most fertile counties, such as Lincoln, were formerly mere fens and marshes, and "the system of agriculture, which has made the fortune of England, sprang from the soils and bleak atmosphere of Norfolk."

M. DE LAVERGNE says:

"It is the same with the climate. Its mists and rains are proverbial; its extreme humidity is little favorable to wheat, which is the prime object of all cultivation; few plants ripen naturally under its dull sky; it is propitious only to grasses and roots. Rainy summers, late autumns, and mild winters, encourage, under the influence of an almost equal temperature, an evergreen vegetation. Here its action stops. Nothing need be asked of it which demands the intervention of that great producing power the sun.

"How superior is the soil and climate of France! In comparing with England the thirty-six departments grouped around Paris, we find more than fifty-five millions of acres which surpass in quality, as they do in extent, the thirty-two millions of English acres. Scarcely any mountains; few natural marshes; extensive plains, sound almost throughout; a soil sufficiently deep, and of a nature most favorable to production; rich deposits in the broad rollings of the Loire and Seine with their tributaries; a climate not so moist, but warmer—less favorable, perhaps, to meadow vegetation, but more suitable for ripening wheat and other cereals. All the productions of England are obtained with less trouble, and in addition, other valuable products, such as sugar, textile and oleaginous plants, tobacco, wine, fruits, &c."

M. DE LAVERGNE proves that, in spite of these natural advantages, England is better cultivated and more productive, over an equal extent, than the best districts of France.

France cultivates a number of crops almost unknown among the English, such as the vine—which covers not less than five millions of acres, and produces at least twenty dollars to the acre—rape, tobacco, sugar beet, madder, the olive, and the mulberry, while the agriculture of England consists in a large extent of natural or artificial pasture; two root crops, the turnip and the potato; two spring cereals, barley and oats; and a winter one, wheat—linked together in a series of crops destined exclusively for the production of meat, beer and bread.

"The diversity of our climate, and what is more, our national genius, which naturally aims at quality in variety, as that of England seeks quantity in uniformity, give us promise of immense progress in those crops which to a certain extent, are dependent on art. Still it is impossible to be blind to the fact that as matters stand, the English, with their two or three crops upon a large scale, produce by the universality and simplicity of the means they employ, much superior results in the aggregate—results which we also obtain in particular parts of France, where the same system is followed. Those of our departments most resembling England in the nature and distribution of their crops, are those also which attain, upon the whole, the best returns."

This is high, but well deserved praise of the four course system of British agriculture, the principle of which is the alternation of green crops with the cereals—a principle which is as applicable to the agriculture of this country as to that of England or France, for though we cannot grow turnips to the extent common in England, yet we may grow some other crop having the same qualities.

In nothing is there a greater contrast between French and British agriculture, than in sheep husbandry. In France, the main object is wool, in England mutton. One half of the French sheep are Merinoes, or halfbred Merinoes. England long ago abandoned the propagation of the Spanish breeds. By careful breeding, several of the British breeds of sheep will average, at two years old, eighty to a hundred pounds nett, of mutton. France has thirty-five million sheep, which produce one hundred and thirty-two million pounds of wool, or about 3½ lbs. per head, and 316 million pounds of mutton; whilst 35 million British sheep produce at least the same quantity of wool, and 792 million pounds of mutton. "England feeds two sheep per hectare, (2½ acres) whilst the average for France is only two-thirds of a head; and the produce of the English sheep being double that of the French, it follows that the average return of an English sheep farm is six times greater than a French one."

France possesses ten million head of cattle, England and Wales five million, Scotland one million, and Ireland two million. In France, the number of cattle annually slaughtered is four millions; in the British Isles two millions. The former, according to official statistics, afford 660 million lbs. of meat, or 165 lbs. each, while the latter afford 1,100 millions, or 550 lbs. per head.

"This disproportion is perfectly explained, independently of the difference in race, by the difference in age of the animals slaughtered. The French cattle are slaughtered either too soon or too late; the paramount

* The Rural Economy of England, Scotland and Ireland. By LEONCE DE LAVERGNE. Translated, with notes, by a Scotch Farmer. Edinburgh: 1855.

necessity of maintaining cattle intended for labor, obliges us to kill a great number of calves at that age when growth is most rapid. In our four millions of head, figure two and a half millions of calves, which on an average give not more than sixty-six pounds of meat. Those that survive are not slaughtered until an age when growth has long ceased—that is to say after the animal has for several years continued to consume food which has not served to increase its weight. The English, on the contrary, kill their animals neither so young, because it is when young that they lay on flesh most rapidly, nor so old because they have ceased to increase; they seize the precise period when the animal has reached its maximum growth."

M. DE LAVERGNE estimates that English cows give twice the milk obtained from French cows. This arises from the practice of working milch cows, which prevails to a greater or less extent in France, and our author declares that "the working of horned cattle, whether necessary or not, entails a loss instead of being profitable."

Nor only in the production of meat, but in the production of cereal grains, does M. DE LAVERGNE award the palm to British farmers. He says:

"With us, the average production is 13½ bushels of wheat and 11 of rye per acre, deducting seed. Adding to this the maize and buckwheat, and dividing the whole by the number of acres sown, the average result for each acre is rather more than seven bushels of wheat, about three bushels of rye, and a little more than one bushel of maize or buckwheat—making a total of about twelve bushels per acre. In England, the production is 28 bushels of wheat—say more than double in quantity, and in money value, three times as much. This superiority is certainly not to be attributed, as in the case of the natural and artificial meadows and roots—and, to a certain extent, also with oats and barley—to the soil and climate, but to superior cultivation, which shows itself chiefly in limiting the wheat crop to the extent of land rendered fit for its production."

We have italicised the closing remark, in order to call particular attention to it, for we are persuaded that our own system of agriculture might be improved by reducing the quantity of land annually sown with the high-priced cereals. Scotland and Ireland are included in the above estimate, but taking England by itself, the results are much more striking:

"That small country, which is no larger than a fourth of France, alone produces 104 million bushels of wheat, 48 million of barley, and 90 million of oats. If France produced in the same ratio, her yield, deducting seed, would be 400 million bushels of wheat, and 560 million bushels of barley oats and other grain—equal to at least double her present production; and we ought to obtain more, considering the nature of our soil and climate, both much more favorable to cereals than the soil and climate of England. These facts verify this agricultural law—that to reap largely of cereals, it is better to reduce than to extend the breadth of land sown, and that by giving the greatest space to the forage crops, not only is a greater quantity of butcher meat, milk, and wool obtained, but a larger production of grain also. France will achieve similar results when she has covered her immense fallows with root and forage crops, and reduced the breadth of her cereals by several millions of hectares."

ALTHOUGH, in draining land thoroughly, your purse may be drained, yet the full crops that follow will soon fill it again.

THE COMPOSITION AND ACTION OF GUANO.— INFORMATION WANTED.

THE March number of the *Penn. Farm Journal* contains an article on guano, from the pen of Dr. A. A. HAYES, of Boston, from which we make a few extracts for the purpose of eliciting further information.

"The guano which we will first consider is that best known, derived from the *rainless regions*, the Chincha Islands off the coast of Peru, Ichaboe on the coast of Africa, and other localities."

Is Ichaboe a "rainless region?" and if it is, why is not Ichaboe guano as good as Peruvian? and why will not farmers give as much for it as for Peruvian? We have seen genuine Ichaboe guano sold in England for \$22 per ton, when Peruvian was selling for \$46 per ton. Ichaboe contains usually from 5 to 7 per cent. of ammonia, Peruvian 16 to 18 per cent.

"The bulk of the ammonia present in Peruvian guano is not the simple carbonate, or a sesqui-carbonate, but the bi-carbonate."

This may be true of samples of guano that have been wet and undergone fermentation; but so far as our experience extends, it certainly is not true of genuine "Peruvian" guano. Dr. URE, who has had much experience in analyzing guano, says in the last edition of his "Dictionary of the Arts and Sciences," Peruvian guano "may contain, at the utmost, four or five per cent. of the carbonate (of ammonia,) but such guanoses must have been acted upon powerfully by humidity." This is not more than *one-seventh* of the amount of ammonia, actual and potential, that is contained in good Peruvian guano; and this quantity, it will be observed, is only found in inferior or damaged samples. In a sound sample of Peruvian guano from the Chincha Islands, Dr. URE found only one per cent. of sesqui-carbonate of ammonia, equal to 0.34 of ammonia, or about *one-fiftieth part* of the whole quantity of actual and potential ammonia in the guano. We will not dispute Dr. HAYES' statement that it is the bi-carbonate, and not the sesqui-carbonate or carbonate of ammonia, that is found in guano—it matters little which; but we are confident that the "bulk of the ammonia present in Peruvian guano," is in the form of neither of these volatile salts, but in the form of urate of ammonia, and other fixed salts, which by fermentation in the soil are converted into carbonate of ammonia.

"A certain *fermentative principle* present in it (guano) acts upon the organic constituents of soils. * * * Experiment has not only proved this, but has also shown that in that universal manure derived from the barn-yard, the same fermentative principle exists, *constituting its most valuable constituent*."

We would respectfully ask what this "fermentative principle" is; and where and when the "experiment" was made that has proved the existence of this principle, and that it is "the *most valuable constituent*" of barn-yard manure?

"The great activity and power of the chemical action which takes place in the mass of the material comprising the guano heaps, has had the effect to break down the granules of the phosphate of lime, as voided by the birds, into an impalpable powder, in which state it is ready to be assimilated by a growing crop."

Peruvian guano is referred to. We had always supposed that owing to the absence of moisture,

little or no change took place in the deposits of guano. Are we mistaken? We have frequently found feathers, feet, wings, and other parts of birds in guano, and is it not surprising that the "activity" of the "action" which is sufficient to break down granules of phosphate of lime, does not destroy all traces of animal life?

FACTS ABOUT NIGHTSOIL.

JUDGING from the statements made by some writers, we conclude that there is much need of definite knowledge in regard to poudrette. On this account we have been at some trouble to collect the following facts, which we commend to their careful study:

On an average, males from 15 to 50 years of age, void in the course of a year: Fæces, 95 lbs.; Urine, 1049 lbs. Total liquid and solid excrements, in their fresh state, 1144 lbs.

These contain:

Of *dry substance*—fæces, 23½ lbs.; urine, 39½ lbs. Total, 63½ lbs.

Of *mineral matter*—fæces, 2½ lbs.; urine 12 lbs. Total, 14½ lbs.

Of *carbon*—fæces, 10 lbs.; urine, 12 lbs. Total, 22 lbs.

Of *nitrogen*—fæces, 1 1-5 lbs.; urine, 10 4-5 lbs. Total, 12 lbs.

Of *phosphates*—fæces, 1½ lbs.; urine, 4½ lbs. Total, 5½ lbs.

The most valuable constituents of poudrette, as of all other manures, are the nitrogen (ammonia) and phosphates. It will be seen that the liquid excrements contain about *nine times as much nitrogen as the solids*, and about three times as much of the phosphates.

One hundred pounds of the *dry substance* of mixed human excrements, contain about 10 lbs. of phosphates and 17½ lbs. of nitrogen, equal to 21 lbs. of ammonia. Could such an article be manufactured, it would be as cheap a fertilizer at \$70 per ton, as Peruvian guano is at its present price.

The mixed solid and liquid excrements, in the condition they leave the body, contain as much as 94 or 95 per cent. of water. It would require, therefore, from 16 to 17 tons of fresh excrements, or the quantity voided by 30 men during a year, to make one ton of dry manure.

The value of the liquid and solid excrements, according to this estimate, is about \$2.33 per head, per annum. Fæces being worth 25 cents, and the urine \$2.08.

One hundred pounds of fresh fæces contain 25 lbs. of dry substance.

One hundred pounds of fresh urine contains 3½ lbs. of dry substance.

One hundred pounds of the dry substance of the fæces contains 5 lbs. of nitrogen, and 5½ lbs. of phosphates.

One hundred pounds of the dry substance of the urine, contains 27 lbs. of nitrogen, and 10½ lbs. of phosphates.

One ton of poudrette made from fæces, and rendered perfectly dry without any loss of ammonia, would be worth, according to the present price of Peruvian guano, \$20; while a ton made from urine would be worth \$108.

The poudrette of commerce is undoubtedly made chiefly from the fæces. De-odorizing materials are

also used, such as charcoal, peat, &c., and these of course, weaken the manure. Then, again, it would be extremely difficult to get the article perfectly dry. The probability is that it contains from 10 to 15 per cent. of water. So that while a ton of perfectly dry manure, made without loss of ammonia, (supposing this was possible,) would be worth \$20, it is certain that a ton of poudrette containing a considerable portion of absorbent and de-odorizing material, and some two or three hundred pounds of water, will be worth very much less. Indeed, from the difficulty of driving off half or two-thirds of the water without inducing rapid fermentation—and from the large quantity of absorbent material that would be required to retain this ammonia—we do not think that a poudrette can be made from fæces that would be worth more than \$12 per ton. If instead of de-odorizing absorbents, hydrochloric acid were used to retard fermentation and retain the ammonia, a somewhat more concentrated fertilizer might be obtained. But in this case it would be difficult to make the poudrette so dry that it would not contain 20 per cent. of water; and if sulphuric acid were used, the poudrette would be still more deliquescent. So that, even by the use of acids, it would be difficult to make a poudrette from fæces worth more than \$16 per ton, the pure, chemically dry article being worth \$20 per ton.

A highly concentrated fertilizer could be made from urine—worth, as we have said, \$108 per ton; but 28½ tons would be required to produce one ton of dry poudrette.

A GREAT CORN CROP.—The *American Farmer* publishes a well attested statement from G. W. P. SMITH, of Snow Hill, Md., one of the competitors for the premium offered by the Maryland State Agricultural Society for the best yield from one acre of corn, from which it appears that he harvested *one hundred and fifteen bushels, one gallon and one quart, from one acre of land.*

The land was plowed about 11 inches deep, early in the spring, after having been heavily manured broadcast with new rotted stable manure, night-soil and wood-yard dirt. On the eight day of May, the land was run out with a large plow, in rows 4 feet apart, in the bottom of which superphosphate of lime, mixed with Peruvian guano in about the proportion of one part of the former to two parts of the latter, was dropped. The mixture was then covered with a light plow, and the rows again opened and the corn dropped, after being dampened with salt water and rolled in plaster of Paris. It was then covered with an ordinary harrow, and rolled. As soon as the corn appeared above the earth, it was given a top-dressing of superphosphate of lime, at the rate of 200 lbs. to the acre; and this was followed by a slight sprinkling of plaster of Paris. The corn was left to stand at about 11 inches apart in the rows. It was harrowed twice, plowed once, and the plow was followed by the cultivator once, which is all the tillage the crop received.

PASTURING AND HARROWING WHEAT, when too luxuriant, were practiced by the ancient Romans. VIRGIL says:—"What commendation shall I give to him, who, lest his corn should lodge, pastures it while young, as soon as the blade equals the furrow?"

AMOUNT OF ROOTS FROM CLOVER AND GRASSES.

THAT the roots of plants left in the soil serve to enrich it, there can be no doubt. It has been estimated that the roots left in an old pasture or meadow field, are equal to four times the weight of that year's hay crop. In other words, if a ton and a half of hay had been reaped, six tons of dry vegetable matter remain in the soil in the form of roots. This estimate is deduced from a series of experiments made by HLUBEK, in the agricultural garden at Laybach. The grasses he experimented on were sown in beds of equal size (180 square feet), and mown on the fourth year after sowing, just as they were coming into flower. The roots were then carefully taken up, washed and dried. The results of some of these trials were as follows :

KIND OF GRASS.	PRODUCE IN GRASS & HAY		PRODUCE IN ROOTS.		Weight of dry Roots of 100 lbs. of Hay.
	Grass.	Hay.	Fresh.	Dry.	
1. <i>Festuca elatior</i> —Tall Fescue-grass,	lbs. 124	lbs. 36	lbs. 56	lbs. 22	lbs. 61
2. <i>Festuca ovina</i> —Sheep's Fescue grass,	90	39	-----	80	266
3. <i>Phleum pratense</i> —Timothy-grass,	90	25	56	17	60
4. <i>Dactylis glomerata</i> —Rough Cock's-foot,	202	67	-----	22½	33
5. <i>Lolium perenne</i> —Perennial Rye-grass,	50	17	-----	50	300
6. <i>Alopecurus pratensis</i> —Meadow Fox-tail,	106	35	-----	24	70
7. <i>Triticum repens</i> —Creeping Couch or Quicken-grass,	120	60	-----	70	116
8. <i>Poa annua</i> —Annual Meadow-grass,	-----	-----	-----	-----	111
9. <i>Bromus mollis</i> and <i>racemosus</i> —Soft and Smooth Bromegrass,	-----	-----	-----	-----	105
10. <i>Anthriscum odoratum</i> —Sweet-scented Vernal grass	-----	-----	-----	-----	93

A mixture of white clover, of ribwort, of hoary plantain, and of couch-grass, in an old pasture field, gave 400 lbs. of dry roots to 100 lbs. of hay; and in a clover field, at the end of the second year, the fresh roots were equal to one-third of the whole weight of green clover obtained at three cuttings—one in the first, and two in the second year—while in the dry state there were 56 lbs. of dry roots to every 100 lbs. of clover hay which had been carried off.

The Sheep's Fescue and the Perennial Rye-grass, beside the dead roots which detach themselves from time to time, leave, at the end of the fourth year, a weight of living roots in the soil equal to three times the produce of that year in hay. If we take the mean of all the above grasses as an average of what we may fairly expect in a grass field, then the amount of living roots left in the soil when a four-years-old grass field is plowed up, will be equal to one-sixth more than the weight of that year's crop.

In the case of clover, at the end of the second year, the quantity of dry vegetable matter left in the form of roots, is equal to upward of one-half the weight of the whole hay which the clover has yielded. We do not know of any experiments that prove it, but we have little doubt that the annual increase of clover roots, after the second year, is far less than in the first and second years, and that there is little gained by letting land lie down with clover more than two years.

As a general rule, whatever increases the foliage of a plant, increases the roots also; and hence it is

that an application of plaster to clover, even though all the clover is removed from the soil, proves beneficial to the following grain crop from the increased quantity of roots left to decay in the soil.

THE CULTIVATION OF SPRING WHEAT.

WINTER wheat is much more productive, and makes a finer flour than spring wheat. On this account alone, if on no other, winter wheat will always be preferred to spring wheat where the soil and climate are favorable to its production. But there is a large part of the United States where at best, winter wheat is an uncertain crop, and spring wheat a certain and profitable one.

Spring wheat requires good cultivation. The soil should be more thoroughly pulverized than for winter wheat, and should be made as mellow and active as possible. On this account it must on no consideration be plowed when wet. Better sow late with the soil in good tilth, than early with a cold, clammy seed-bed.

There are those indeed, who think it better as a rule, to sow late than early, but this opinion is founded on the success of late sown wheat in such seasons as that of 1854, and does not hold true in ordinary years. Late sowing usually produces more straw and less grain, and it is not advisable to sow very late on rich soil, for the crop will be laid.

It is useless to expect a good crop of spring wheat unless the soil is naturally dry or has been well drained—no crop suffers more from standing water.

Barn-yard dung should generally not be applied directly to spring wheat. It is better to make the land rich by manuring the preceding crop, or if the land has laid down two or three years in clover, and a portion of the clover is turned under, it will generally be rich enough. Peruvian guano sown broadcast and harrowed in with the seed at the rate of one to two hundred pounds to the acre, has a good effect and will be found profitable in the Eastern States. Unleached wood ashes and plaster have a better effect on spring wheat than on winter wheat, for the reason, we presume, that the former requires a more active soil than the latter.

Two bushels of seed per acre is about the usual quantity. We should prefer more rather than less. The seed should be prepared with chamber-lye, or with salt waters strong enough for an egg to swim in, and immediately dried with quick lime.

As to which is the best variety of spring wheat, there is great difference of opinion. The Fife, the Canada Club, the Black Sea, and the Tea are the most popular kinds in this vicinity.

EXPERIENCE IN AGRICULTURE.—XENOPHON, who lived 400 years before the Christian era, remarks, in his "essay" on Greek agriculture, that "no man can be a farmer till he is taught by experience; observation and experience may do much, but practice teaches many particulars which no master would ever have thought to remark upon."

CABBAGE WITH CORN.—MR. BROOKS, of Princeton, at one of the Legislative Agricultural Meetings in Boston, alluded to the practice of planting cabbage among Indian corn. He knew an instance where cabbage was planted in alternate rows with corn, and the cabbage sold for \$150 per acre.

EXPERIMENTS ON INDIAN CORN.

In the year 1853, Mr. H. H. EASTMAN, of Marshall, Oneida county, N. Y., made some experiments with various manures on Indian corn. In transferring the results of these experiments to our columns, we took occasion to say that the experiments were made on too small a plot of land to be reliable. Mr. E. made some similar experiments on corn, last year, the results of which were communicated to the New York State Agricultural Society, at its last annual meeting. For the sake of comparison, we have thrown the results of the experiments in 1853, and of 1855 into a table, which will enable our readers to judge how far we were right in our opinion of the reliability of such a system of experimenting :

EXPERIMENTS MADE BY H. H. EASTMAN, OF MARSHALL, ONEIDA COUNTY, N. Y., WITH VARIOUS MANURES ON INDIAN CORN, IN THE YEARS 1853 AND 1855.

DESCRIPTION OF MANURE.	Bushels of shelled corn per acre.	
	1853	1855
1. No manure,	53½	52¾
2. Compost in hill,	110½	82¾
3. " on top of hill,	92½	43½
4. Quick lime, in hill,	50½	57¾
5. " on top of hill,	71	52¾
6. Gypsum, in hill,	77½	62¾
7. " on top of hill,	79½	57
8. Ashes, in hill,	77½	53½
9. " on top of hill,	75½	66½
10. Lime, gypsum, and ashes, equal parts, in hill, ..	81¾	55¾
11. " " " on hill,	73	61¾
12. Guano, table-spoonful, in hill,	84	34¾
13. " " on top of hill,	100	57¾
14. Superphosphate of lime, in hill,	91½	64¾
15. " on top of hill,	75¾	77¾
16. Poudrette, in hill,	80½	72¾
17. " on top of hill,	73½	
18. Nightsoil composted, double handful in hill, ..		57¾
19. Hog manure, d uble handful in hill,		84¾
20. Infermited horse manure, half spoonful in hill, ..		68¾
21. " " " on hill,		48¾
22. Hen manure, handful in hill,		82¾
23. Carbonate of lime,		72¾
24. Poudrette, guano, superphosphate, equal parts, table-spoonful in hill,		74¾
25. Do. do. do. do. on top of hill,		57¾
26. Guano and superphosphate of lime, table-spoonful of each, in hill,		88¾
27. Do. do. do. do. on top of hill,		63¾

In 1853, the experiments were made on 25 hills of corn ; in 1855, on 40 hills, — in other words, on the one hundred and ninety-third and the one hundred and twenty-first part of an acre : so that any error in weighing, measuring, &c., is multiplied by 193 or 121 in ascertaining the acreage produce.

Look at plot 3. Compost on the top of the hill in 1853 gives an *increase* of 17½ bushels; in 1855, a *decrease* of 9½ bushels of shelled corn per acre.!

What contrary results plots 4 and 5 present ! In 1853, lime in the hill causes a *decrease* of 3 bushels,

lime on the top of the hill gives an *increase* of 17½ bushels; while, in 1855, lime in the hill gives an *increase* of 5 bushels, and lime on the top of the hill no increase at all,—the results in 1855 being precisely the reverse of those in 1853.

On plots 6 and 7, in 1853, gypsum on the top of the hill gives a better crop than gypsum in the hill; but in 1855 precisely the opposite result is obtained. The same may be said of plots 8 and 9, with ashes; and of plots 10 and 11, with gypsum, ashes, and lime; and of plots 14 and 15, with superphosphate of lime. It is difficult to conceive that difference in soil and climate can account for such anomalous results.

We make these remarks in order to show that although some of our agricultural societies have called special attention to these experiments by an award of premiums, &c., they are really incapable of demonstrating anything—except it be the inaccuracy of such a system of experimenting.

THE ORIGIN OF HORSE-HOEING. — Horse-hoeing beans, wheat, &c., was a common practice in Roman agriculture, the origin of which is thus given by PLINY :

"We must not omit," says he, "a particular method of plowing at this time practiced in Italy beyond the Po, and introduced by the injuries of war. The Salassi, when they ravaged the land lying under the Alps, tried likewise to destroy the panic and millet that had just come above ground. Finding that the situation of the crop prevented them from destroying it in the ordinary way, they plowed the fields ; but the crop at harvest being double what it used to be, taught the farmers to plow among the corn" [wheat]. This operation, he informs us, was performed either when the stalk was beginning to appear, or when the plant had put forth two or three leaves. The wheat being generally sown in drills, or covered with the plow, so as to come up in rows, readily admitted this practice.

Weeding and stirring the soil were performed ; the first by cutting with a hook, or pulling the weeds up with the hand ; and the second by sarcling or hoeing. Beans were hoed three times, and wheat twice ; the first time they were earthed up, but not the second or third ; "for," says COLUMELLA, "when the wheat ceases to tiller, it rots if covered with earth." Lupines were not sarclad at all, "because, so far from being inïested with weeds, they destroy them."

CORN COBS FOR WIRE WORMS. — A correspondent of the *Maine Farmer*, J. H. COLE, of Vassalboro', says :

"Having a piece of ground, last spring, to sow with wheat, that had for years been infested with wire worms, and taking the hint from the fact that pieces of dry corn cobs deposited in the hill with seed corn will prevent the worms from eating the kernels, before plowing the ground I sowed on three bushels of broken, dry corn cobs to the acre, and plowed them in, leaving a strip across one end without cobs, and sowed the whole to wheat. I observed it carefully, and found that though considerable was eaten and dead where the cobs were not sown, there was no damage done where they were. When cobs are put in ground infested with wire worms, whether the cobs are put in the hills of corn or plowed in, if we examine them we shall find the worms have worked themselves into the pith of the cobs at one or both ends, and when in them they are not preying upon the growing crop."

MILLET FOR SOILING AND FOR FODDER.

A PRETTY thorough examination of the recorded experience of practical farmers during the last twenty years, has led us to the conclusion that in this climate no plant has given such general satisfaction for soiling purposes or for fodder, as millet. In Germany it is cultivated principally for the seed, which is frequently used instead of rice. In this country it is generally raised for fodder, or for fodder and seed together. Large crops have been grown. In 1841, Mr. G. JONES received a premium from the Tompkins County Agricultural Society, for having raised, on two acres, five and a half tons of millet fodder and sixty-three bushels of seed. Twenty quarts of seed were sown per acre on the 8th of June, on new land. T. B. SHEPARD, of Buffalo, N. Y., says, in the last volume of the *Genesee Farmer*, page 181 :

"In 1851 I sowed four acres of millet (four quarts per acre) the 16th of June, and had as much fodder as from any eight acres of grass that year—and it was a good year for hay. I have raised from four to eight acres every year since, and have invariably had good crops of not only fodder or hay, or straw equal to as many tons of the best timothy hay, but from twenty to thirty bushels of seed to the acre, equal to as many bushels of corn to feed to any kind of domestic animals. I feed the most of my seed, after having it ground, to milch cows, preferring it to Indian meal, as making more milk and of as rich quality. The last season I had six acres of millet, which has been worth more than \$50 per acre, or \$300 for the six acres. I have fed 35 cows on the straw since the 25th of January, and have enough left to last until the 1st of May, and got 120 bushels of seed from the lot. The ripest of the seed, some sixty bushels, I have sold for seed, and the balance I am now feeding to my horses, and find they do as well on the meal put on cut hay and straw, as they did when I fed an equal quantity of corn and oat meal."

The great German agricultural writer, ALBERT D. THAER, says :

"Millet requires a warm, rich, sandy, well pulverized soil. It succeeds better when sown after some crop which has been abundantly manured, than it does when sown immediately after an amelioration of undecomposed manure.

"A soil must be tilled to a great depth for its reception, and plowed three times, besides being harrowed, rolled, and thoroughly freed from weeds. Many farmers dig their ground to a great depth previous to sowing it with this plant; but a good plowing answers the purpose equally well. Millet is in general very successful on newly drained land, provided that it is in good condition, and also land which has been left in repose for several years; in the latter case a single plowing is sufficient, if the soil is subsequently harrowed, and well broken up with a roller, before the seed is put into it. When this class of soils are too dry for linseed, there is no more profitable means of employing them than by sowing them with millet.

"Millet should be sown in May; a harrow is then passed lightly over the soil, and, where the ground is dry, a roller must also be used. The seed must be thoroughly ripe, perfect, and free from disease.

"As soon as weeds make their appearance among millet which is just shooting above ground, they must be eradicated by weeding. This is absolutely necessary. * * * The best way is to tear up the weeds with hand rakes constructed for the purpose. This mode of proceeding answers far better than hand-weeding, as by its means not only all the weeds may

be eradicated, but the supernumerary plants may be thinned off. The effect of this cultivation on the success and vegetation of the crop is wonderful; after it, the millet shoots up so rapidly that the weeds seldom have time to grow again, or, if they do, it is in very small numbers, and they may easily be pulled up."

Mr. A. Y. MOORE, of Schoolcraft, Mich., in a letter published in the *Country Gentleman* for April 5th, 1855, says :

"Millet has been a favorite crop with me for the last five or six years. There is no kind of hay that my stock of all kinds prefer to millet; and if the land is rich, and it is well put in, and good seed, it produces well. I have had as much as four tons to the acre. After it is taken off in the fall, the land is in good order for wheat, by being once well plowed; not yielding quite so heavy a crop as a summer fallow, but quite good."

Mr. L. M. BARTLETT, of Lasalle, Mich., says :

"For hay (cut when seed is half ripened) it is superior to any crop I have ever tried. On rich lands it may be made to yield from four to six tons per acre. It is excellent for horses, when well cured; they are particularly fond of it. Cattle prefer it to best Timothy or clover. * * I have been feeding my entire stock on this kind of hay for the last fortnight, and all seem satisfied, even the calves."

Mr. MOORE's method of cultivation is as follows :

"I will now give you my process. I plow early in the spring, at the time that I plow for oats or corn—harrow once—then after oats are sowed, corn planted, and other work done up, say from the 1st to the 10th of June, plow the ground again, harrow well, and sow about twelve quarts seed per acre; harrow well again, and it should be rolled, in order to make a smooth surface for mowing. It comes up slow and fine, but grows very rapidly in hot weather, say July and August. It is fit to cut in September, when the seed is out of the milk, or pretty solid. It does not hurt by standing, even till frost comes, except that it loses seed. Some folks cradle and bind it in sheaves, but I prefer to mow it, and put it in cock green; let it cure in cock; it may want airing, but put it in cock again to undergo the curing process. If it should rain and wet the hay, open the cocks till dry, and put it up again. It is a very rich, nutritious feed, in consequence of the abundance of seed, which all kinds of stock are fond of."

There is some difference of opinion as to the proper quantity of seed per acre. JESSE BUEL thought four quarts per acre sufficient, while others recommend as much as twenty-eight quarts per acre. If raised for seed, and sown in drills two feet apart, as Judge BUEL recommended, probably a peck to the acre would be all the seed required; while if sown broadcast for soiling purposes, as much as three pecks might be sown with advantage. The richer the soil, the more seed should there be sown. If sown thin, on rich land, the stems are coarse and hard, and not so good for fodder.

Millet is doubtless an exhausting crop on a wheat farm. It draws heavily on the soil for those elements most needed by wheat, barley, oats, corn, &c. We would not advise its cultivation on land intended for wheat. When raised for fodder, or for soiling, a rich alluvial soil, abounding in organic matter, and which will not grow wheat, is just the kind of land for it. Large crops can be grown on such land in dry, hot summers, when all other forage crops are light. So that the land is rich enough, the weather can not be too hot or the soil too dry for millet.

THE CULTIVATION OF BARLEY.

The best samples of American wheat are much superior to the English, but our barley will not compare with theirs. The short, dry, hot summers of this country ripen the barley before it has attained its perfect development. Nevertheless, although this climate is not well adapted for the production of barley of the best quality, yet there are many reasons why barley will always be a favorite crop with American farmers. On wheat farms, it is supposed to exhaust the soil less than a crop of oats or corn, and it is harvested early enough to allow of ample time to prepare the land for the following wheat crop. The straw of barley, when cut before it is dead ripe, and especially if the land has been seeded down with clover, as is the practice in England, is preferred by cattle to that of wheat or oats.

Owing to the shortness of our season, it is very desirable that barley should be sown as early in the spring as the soil can be got into good condition. Light, warm, gravelly soils, if in good heart, and the ground be not too dry, are most favorable for the production of barley. Good crops, however, are often obtained from rich bottom lands when the seed is put in in good condition. Fine tilth is absolutely necessary to insure a good crop of barley. We have known excellent crops obtained after potatoes or corn, without plowing in the spring, the land being well worked with the cultivator and harrow.

In England, three bushels of barley per acre are usually sown, and a few years ago as much as four bushels was not uncommon. In this country two bushels is considered sufficient, though two and a half, in our opinion, is better. The seed should be well covered with the harrow, and the ground be left as fine as possible. When the barley is about an inch high it should be rolled. If more convenient, however, the rolling may be done at the time of sowing. In rolling when the barley is up, it is better to roll round the field, and thus avoid turning short, and pulling up the grain.

Barley should never be sown on recently inverted old sod. Oats are a much better crop for such land. The best crop of barley we ever saw was on a heavy clay soil that had been summer fallowed the preceding summer, with the intention of sowing it to wheat. For reasons which we need not mention, wheat was not sown, and early the next spring, the field was sown to barley, and such a crop we never saw before or since. Barley, however, seldom does well on heavy clay soils—nothing like as well as oats.

A NUT FOR THE SPECIAL MANURE THEORY MEN TO CRACK.—Professor WAX truly says: "The crops which are most benefited by the application of gypsum, contain far less of either lime or sulphuric acid, than those upon which this manure produces no kind of effect." We may also add that the same may be said in regard to phosphate of lime, potash, &c. The crops which are most benefited by their application contain the least of these in their ashes. When will those writers, who recommend the manures corresponding to the ashes of the plant to be grown examine this subject?

EVERY farmer should see daily every animal he has, and inspect its condition. Weekly visits, as with some, soon result in weakly animals.

CULTIVATION OF HEMP.

We make the following extracts from an excellent article on the Cultivation of Hemp, in the *Valley Farmer*, published at Louisville, Ky., and at St. Louis, Mo. It is excellent authority on this and kindred subjects:

"The chief supply of hemp for Naval purposes in the United States, is derived from Russia. Recently, efforts have been made by the United States government, to obtain a supply for the Navy from our own soil; these efforts promise to be successful. American water-rotted hemp is ascertained to be superior to that of Russian growth. Hemp of the best quality may be grown in Kentucky and Missouri, sufficient to meet all the domestic and Naval demands of this country, and there is no good reason why it should not be grown, and render us independent of a nation thousands of miles distant. * * *

Soil and Preparation.—Hemp should never be sown on foul or worn land. Such land will never yield hemp of a uniform length and quality; but the land should be clean, dry, light and rich; these are requisites that must always be considered, or much labor will be spent in vain.

Hemp is frequently permitted to follow hemp on the same land, when a similar course with almost any other crop would not be tolerated by a good farmer. Hemp is said to be less exhausting to land than the cereal grains, and it leaves the ground in more perfect order for the same crop than any other. If hemp is to be sown on ground that produced hemp the year previous, the plowing should be done as early in the spring as the condition of the land will admit of thorough preparation. Under no circumstances should land for this or any other crop, be worked unless it is so dry as to pulverize well.

If hemp is to be sown on sod land, it should be broken up in the fall. On clover, and more particularly timothy sod, it is better to plant one year in corn, before sowing with hemp; if the corn has been well cultivated, the land may be put in fine condition for this crop. * * *

The first plowing should be deep according to the depth of the soil. Let it lay in this condition until about the time of sowing, then it should be well harrowed with a heavy harrow, and then well rolled. The use of the roller, unless upon very mellow land, should be regarded as indispensable in preparing land for this crop. After it is well rolled it should be cross plowed, again rolled, and then harrowed. It is now ready for the seed.

Quantity of Seed per Acre.—In regard to this, as in most other crops, there is a diversity of opinion among farmers, but we believe the experience of a majority of them is in favor of sowing from four to five pecks of seed to the acre, according to the quality of the soil—the richer the land the greater quantity of seed should be sown.

The seed should be sown upon freshly harrowed land; after the seed is cast it should be again harrowed and then cross harrowed. If the previous work has been well done, the soil will be open to a free circulation of the warm air to the full depth the land had been plowed, inviting the roots to penetrate uniformly and deeply, beyond the casualty of drouth.

Time of Sowing.—The time of sowing this crop varies according to the opening of the season, and the strength of the land upon which it is to be sown. Strong land will bear the earliest sowing. If sown too early, the growth is apt to be short; if too late, it is at the expense of the quality of the lint. Between the degrees of latitude 38 and 39, the proper time of sowing will generally range between the 20th of April and the 15th of May.*

IRRIGATING GRASS LAND.

The following from an interesting article on "Manures," by JOHN W. LINCOLN, Esq., of Worcester, Mass., published in the *Patent Office Report*, will be read with interest. Irrigation is a subject worthy the attention of every American farmer:

"There is another fertilizer which I think much more of than any other—I mean that of *water*. I have practised irrigation for more than thirty years, and I know of no means by which land can be improved so certainly and so cheaply as by water, where it can easily be obtained.

"I have on my farm a copious spring; it is situated on the side of a hill, within a few feet of the spot where the water is discharged from the earth. I have made a ditch, but little descending in its course, on the side of the hill; turned the water into the ditch, and use it in irrigating the land. The quantity is sufficient for watering some two acres, and the result has been highly beneficial.

On most farms situated in part on a side hill, there are usually one or more streams of water descending from the higher parts of the hill to the valley below; although they may not be lasting, they usually continue from the early part of the spring until about the first of June, and sometimes longer. All such streams may very profitably be used in irrigation. I have on my farm a run of waters so situated, and use it most profitably on what is called the catch work plan of irrigation; and, although the supply of water fails earlier in the season than I could wish, yet I have the benefit of it until I have secured a thick growth of grass, sufficient to secure the land in a great degree from the effects of a drouth, should one occur before haying, and thereby make sure of a greater grass crop than I could otherwise have obtained.

"The expense attending this improvement is very inconsiderable. An intelligent man, with one to assist him, with the aid of a level, will in a short time stake out the course of his ditch on the side of the hill, giving a slight descent from the place of taking in the water in the direction it is to run—1 inch in 10 feet is sufficient; then, with a team and plow, turn the land from stake to stake, which should be at short distances, to make the ditch more perfect down hill. It will be desirable to take two furrows in the same direction. The ditch is then easily finished with a hoe. After one ditch is made, another, some 20 or 30 feet farther down the hill, may be made to receive the water flowing over from the first, and again distribute it equally for use, and so continuing to the bottom of the hill. When the water is admitted into the ditch, which should be formed so that the water will trickle over its banks for its whole length, it will from the inequality of the land, soon form itself into little rills; hence the necessity of a second ditch for another equal distribution. There are frequently on these side hills, hollows, and places where a dam may be made at a small expense; and a reservoir may be formed for retaining and better controlling the water, which will add greatly to the benefits that may be secured from this improvement.

"I have known land watered in this manner to produce as large a crop of grass as could be dried on the ground, for many years in succession, having no manure except that which it obtained from the water, and from the dropping of the cattle when feeding off the after feed. This land has since passed into other hands; the use of the water has been discontinued, and the crop of grass is comparatively very small—not one quarter what it was formerly.

"The cost of this kind of irrigation is usually very

small, generally less than the value of the improvement for a single year.

"There are commonly, on the sides of every stream, quantities of land which may be irrigated to great advantage. For the purpose of taking out the water, a dam would be necessary across the stream, and the expense must depend upon its location; and whether it would be expedient to erect such a dam would very much depend upon the quantity of land that could be irrigated by its aid. Frequently, by going farther up the stream, a slight dam may be sufficient to turn out the water, although it will require a longer ditch to convey the water to the land to be irrigated. The longer the ditch, the larger it should be to convey the proper quantity of water. There is much land where this improvement may profitably be adopted. They who are disposed so to do will find it much to their advantage to employ a person skilled in the use of a level to stake out the work for this improvement.

"My farm is on the bank of Blackstone river, across which I have a slight dam, by which I take out the water and irrigate about 30 acres of land; and on no other land do I get so profitable a crop. It requires much attention, to be continued daily when using the water, in turning it from place to place, that all may alternately be watered, and preventing it from running too long in the same place, which would be attended with injury. If, by the use of water, a drifting sand may be converted into a luxuriant field, how much benefit, then, may be expected when water is applied to a good soil?"

HARROWING WHEAT IN THE SPRING.—A. S. SMITH, Nichols, Tioga Co., N. Y., writes the *American Agriculturist* that about 18 years ago his grandfather had a piece of fall-sown wheat on new land, which, showing no signs of vegetation in the spring, was sown with two bushels of oats and one bushel of plaster per acre, and harrowed in. He says:

"At harvest we had the largest crop of grain I ever saw cut on the ground with a cradle. It yielded about 20 bushels of wheat and 30 bushels of oats per acre. We tried it bolted for bread, but it was not palatable for man though we had the best lot of horse feed in the neighborhood. I was well convinced at the time, and forever after, that the harrowing and plaster brought that wheat forward. Since that time I have harrowed new ground wheat several times, and invariably with great success. The harrow should be very sharp, and not a very heavy wood."

Wheat should be harrowed the same way as the furrows or drills, and only when the ground is quite dry.

ACCLIMATING SEED CORN.—In an article on this subject in the *Country Gentleman*, W. E. BOISE, of Blandford, Mass., states that he has often brought seed corn from low sandy land in Connecticut, that would barely ripen with him the first season, but by cultivating it a few years, it became as early as corn usually raised in the vicinity.

Seed corn brought from near Mount Monadnock, New Hampshire, ripened earlier the first than the second year's planting, but by selecting seed for a number of years from stalks that ripened first, and produced from two to three ears, he obtained an early and very superior variety.

He recommends farmers who lost their corn by the frost last year, to obtain seed corn that was sown on high land, and from a latitude north of their present location. By so doing they will be "almost sure of a variety that will ripen before the autumnal frosts."

NOTES ON POTATO CULTIVATION.

IN the March number of the *Genesee Farmer* you call for the experience of farmers in potato cultivation. I give you mine for the information of brother farmers, as far as I am competent. I generally raise about five acres every season, and have tried various experiments.

I have become satisfied that to raise good potatoes and plenty of them, land needs high manuring; and where coarse dung is to be used, I prefer applying it in the fall and plowing under so deep as to cover it thoroughly. Then in the spring before planting, plow again, as deep as you have team to do it. Yet one of my neighbors raises great crops of potatoes by applying coarse manure directly on the potato set, and covering both with the earth to sufficient depth. The best potato crop I ever raised, was grown in the following manner: I placed a shovel full of hog manure upon each hill, and also a handful of unleached ashes, before covering. Variety, *Round Pink-eyes*. Yield at the rate of 280 bushels per acre. They were planted in hills $3\frac{1}{2}$ feet apart each way, about the 8th of June. The tops grew rank, and I think had it not been for early frost, which killed them, the yield would have been larger.

During the past three years, I have planted my potatoes in drills about three and a half feet apart, instead of planting in hills, as I had done formerly, and as the result, I can raise nearly as much again from the same ground, and not apply over one-fourth more work. I mark the ground—after it is plowed and well harrowed—to a reasonable depth, according as the season bids fair for wet or dry, marking deep if likely to be dry, and shallower if wet. I then place the potatoes in the rows about eighteen inches apart, and if the ground has not been manured sufficiently before plowing, I drive my wagon with manure along the rows, spreading the manure in the rows on both sides, and behind the wagon as far as convenient. I then cover with the hand hoe; and if there is no manure applied to the sets in the rows, cover with the plow. I never plant but one potato in a place, no matter how small that may be, and I frequently cut the larger ones into two or more pieces, according to size. By planting only one potato in a place, I get fewer small potatoes and more large ones.

The time for planting, is from the first of May until the middle of June. I prefer late potatoes for winter and spring use. I mostly plant *Pink-eyes* and *Mercers*; they command a ready sale at any time, and are as good a potato for the table as any in general use.

In cultivating potatoes in this way, the horse cultivator or drag should be passed through between the drills as soon as the rows can be traced by the tops, or sooner if the weeds are starting. In this way I keep them down, and save much labor in hoeing. When the potatoes are from four to eight inches high, I go through twice in a row with the plow, throwing the soil to the drill. A man with a hoe follows and hauls the dirt around the plants, thus covering all the weeds and plants that the plow misses; this is done almost as quick as the plowing. When the grass and weeds begin to start again, I spread the wings of the cultivator so as to reach from drill to drill very nearly, and pass once through the row, thus turning the dirt between the drills slightly; and in a few days plow them twice in a row for the last time, throwing

the soil to the drills. Let the hoe follow the plow each time. My potatoes are then clean, and so large that the tops will high cover the ground. This mode of culture might not answer on all soils, but this is my experience on prairie soil, which is generally of a black color, and a little sandy.

I have never observed any difference in regard to the disease, when manure was plowed under and thoroughly mixed with the soil, or applied directly in the hill. A few years ago when the potato disease was very destructive, my potatoes rotted as bad where there was no manure as where the richest manure in considerable quantity was applied. I think they were not quite as bad where unleached ashes was used.

With regard to planting potatoes on clover sod, it is beyond a doubt the best place to plant if no manure is to be used, and as good crops are often raised upon this, as upon the same kind of land with some manure. The clover sod should be plowed early in the spring, and dragged thoroughly, for late plowing will not give it a chance to rot sufficient to plant and tend with ease. Then before planting take a large two-horse cultivator and stir the soil well; then proceed as in old ground. By this means the sod rots first, and furnishes food for the potatoes to grow upon. By the time it is necessary to put the plow amongst the potatoes, the sod is rotted sufficient to work with ease as deep as is necessary the first time, and the second plowing may go as deep as the ground was plowed before planting, if necessary.

The thorough dragging before planting tends to rot the sod, and when the cultivating is over, the ground is quite fit for planting with ease with the hand hoe. Perhaps some may think this is too much work, but they will find that the better order the ground is in, the better will be the crop—more than sufficient to “pay.” On most soils, deep plowing pays the best. Some compost or well rotted barn-yard manure thrown over the land before cultivating, greatly increases the crop. E. WOOLVERTON—*Milan, Ohio, March, 17th, 1856.*

CUTTING DRAINS IN THE SPRING AND FALL.—A correspondent of the *Ohio Farmer*, C. SPRINGER, Meadow Farm, Ohio, says:

“Some six or seven years since, I put one hundred and sixteen rods of French drain, in a meadow, which redeemed from swamp and sour-grass about one and a half acres, which is now worth, for pasture or hay, 50 per cent. more than the balance of the field. This was all done with the spade and shovel, at a cost of nineteen cents per rod; stone being convenient, and counting nothing for boarding or the use of the team.

“This last job was done in August. But last March, one year ago, I made some twenty rods, under about similar circumstances, with the spade and shovel, which cost but ten cents per rod. These two experiments show the difference in expense, between making your drains in the spring, when the frosts and rains of winter have loosened and softened the soil, and making them after the ground has settled, and become dry and hard.”

The drains were cut about 18 inches deep, and 18 inches wide; stones, about the size of a brick, were laid on each side the drain and covered with a flat stone, or “leveling the whole up with spawls;” place a little straw on the top, and throw in the soil with a shovel or plow.

SOUND CORN AND RIPE PUMPKINS.

CORN is easily raised if managed in the right way and at the right time. The ground should be plowed eight or ten days before planting, that it may be thoroughly aired and warmed. The seed should be the best that can be procured, and planted when warm weather has fairly set in.

My plan is to soak the seed some thirty-six hours in a solution of saltpeter, say one ounce to eight quarts of seed, with sufficient warm water to cover the whole. Corn prepared in this way is not relished by crows, and will soon present itself, with broad, dark green leaves. In marking corn ground, if intending to row but one way, the rows should be due east and west. As much depends on this as on any one thing, in raising sound corn. My reason for this opinion is, that when corn is planted in this way, the sun shines upon the ground (no matter how big the plants are) from morning till night. When rowed but one way, and that north and south, as is the custom generally, the ground is shaded from five in the afternoon till eight the next morning, making a difference of five hours—no small consideration. The one method has a tendency to keep the ground warm all night, while the other gives it a good chance to get cold.

Since following the above rule my sound corn has been thirty bushels to one of soft.

As to the manner of securing corn and corn-stalks, if the ground is not wanted for fall wheat or rye, I prefer letting the corn remain on the hill. When the corn is well glazed, I cut off the stalks close to the ear, bind and shock them in the field for winter use. I consider corn left to ripen in this way will yield better, and be much sweeter and heavier than when cut up by the roots. The extra fodder below the ear is not an equivalent for the time spent in husking at a season when everything else requires our attention, to say nothing of many other disadvantages.

If left on the hill, you can husk when you please, and secure your corn with one half the labor that it takes when cut up and put in shocks. In the one case you have the satisfaction of moving your limbs and enjoying the fresh air, as you move your basket from hill to hill, stripping down the clear white husks, exposing to view corn that is as hard and substantial as the hands that husk it; while in the other, you are confined to the field, the barn, or some miserable old hovel, perched upon a bungle of damp corn stalks, with another thrown across your legs, endeavoring to extricate the slippery, half-rotten corn from its moldy covering.

Such are the lessons I have experienced in raising this best of all grains, when ripe and sound, but if not, the very poorest. Being particular to let the sun in upon corn ground, the advantage of planting pumpkins by themselves, will be at once seen. I will here give my experiment in raising this vegetable last year. Early in the spring I broke 70 rods of old pasture expressly for pumpkins. The reason I did this was, the year before I planted a portion of this lot to corn and pumpkins, and the wire worm destroyed the corn, leaving the vines unharmed. The first week in June I fitted the ground, and planted. Rows 4 feet apart, hills 2 feet in the row, one seed in a hill, put in with the thumb and fore finger, two inches deep. Hoed but once, at the time the fifth leaf made its appearance. The vines soon covered the ground, forming a

complete mat, covered with blossoms, and bees into the bargain.

Many predicted at this time but few pumpkins, and I had but little faith myself. However, time passed. The first frost in September laid the leaves low, and revealed to my eyes a sight they never beheld before—the ground completely covered with large, bright yellow pumpkins. I had upon this 70 rods of ground, 15 loads, worth in the field \$1.25 per load, which amounts to \$18.75 from seventy rods of ground, or \$42.84 per acre. The cost of cultivating an acre is about \$6, leaving a profit of \$36.84.

It is my opinion that farmers would gain by planting corn and pumpkins separately. Although some may think this a small profit from an acre of ground, I consider it "some pumpkins" for Allegany. J. C. ADAMS—*Seymour, Allegany Co., N. Y.*

ROADS AND ROAD MAKING.—The *Ohio Cultivator* gives some good hints on this subject, from which we extract the following:

"Having elected an efficient Supervisor, let us set him to work. Our roads are too wide. No road can be kept in good condition unless it is thrown up in the middle. From the center the water should run off at once to the ditches. It ought not to be allowed to run in the wagon rut, cutting it into a gutter. We have never seen one of these wide roads so thrown up. It ought therefore to be made just wide enough for two wagons to pass each other.

"One of the best ways to carry the dirt to the center is, to take off the shovel from a shovel plow, and fasten to the plow a heavy oak board, one foot wide, and two and a half feet long, beveled at the lowest edge, which will be better if ironed. With this implement and a horse, the work can be rapidly done. No stumps should be left in the road.

"Having made it, the great difficulty is to keep it in order. This would be no difficulty, however, if the Supervisor would closely watch when the water is beginning to wash a gully, or to run in the wagon track, and immediately call out a hand to prevent it. A road, in this way, might always be kept good, so far as it is possible to do so. In wet weather, in a clay soil, roads will get deep; no underdraining will prevent it. It is the ruts and stumps which make our roads so bad; and the course indicated would prevent the one, and eradicate the other. And such a course would, in the end, save a thousand per cent of the labor now given to our roads."

PEAS SHOULD BE PLANTED DEEP.—The *Ohio Farmer* says:

"In the culture of peas, one old routine is almost invariably practiced, viz: Plant them about two inches under ground, in drills, and as they grow, draw earth up to them, so that when they come into bearing, and just when they require the most nourishment, moisture, &c., they get the least, for all showers of rain, by means of the drills or ditches, run rapidly off the ground, and the sun has far more effect in drying rapidly after rains; to these add the fact that a shallow planting, and so drawing up earth afterward, nearly all the roots are near the surface; hence, early maturity, and as early decay. Experiments in planting, four years, at different depths, have shown that the pea will grow freely in good, mellow, loamy soil, at a depth of one foot; but at the same time, we would recommend planting in generality of soils, at say, six to eight inches deep; by so doing, your peas will come as early as when planted only two inches deep—will grow stronger, produce more, and continue longer."

NOTES BY S. W.

THE failure of that experiment noticed in the last *Farmer*, of plowing in clover to a clay soil, was doubtless owing to the omission of that cross plowing, which would have let in heat and oxygen from the atmosphere to decompose the green clover beneath. But the full benefit of long or undecomposed manure, plowed or trenched into a heavy soil, is only realized in a warm, dry season, and then only under thorough tillage. Although many short crops of Indian corn were grown here in the dry hot summer of 1854, yet under skillful tillage and manuring, the crop of that cereal never was greater; on the other hand, the best of tillage and manuring failed to mature a single great crop the last cool, wet season, for the very reason that the manure applied to it would not decompose and furnish the growing plant with the necessary carbonic acid and ammonia, during the long days and short nights throughout which alone corn matures or rather fills its cereal product. But the undecomposed manures are not lost; this year's crop will have the mechanical as well as the chemical benefit of the undecomposed matters of last year. The reason why a sandy or gravelly loam is quicker than clay, is because its higher temperature decomposes vegetable matter faster, and this is one reason why sandy land loses its manure so much quicker than clay loam. But the main cause is found in the fact that clay has greater affinity for ammonia, and a power to retain it which sand has not.

Much is written of late on the relative value of small and large potatoes for seed. Experiment fully proves that large potatoes are best, if they do not cost too much; medium or less sizes do well for seed, but it will be found that very small seed potatoes are not to be relied on, even on the best soil, as the vines will inevitably be slender, and the tubers few and small; such at least, is the result of one experiment.

It is said that some men can digest a well written article at a glance; but I confess that it was only on the second reading of your leader in the last *Genesee Farmer*, on the "Cultivation of Potatoes," that I was fully impressed with its importance to the potato growing farmer. How true it is that although potatoes require the same manurial ingredients as wheat, yet the mechanical structure of the soil should be entirely different. Wheat requiring a compact aluminous soil; potatoes, muck, or a loose and friable sandy or gravelly loam. Repeated experiments have proved that hog or distillery manure is the best for potatoes; as those who have repeatedly tried it have had large and early yields and but little rot. Old sod plowed under in the fall is probably next to it, but unless manured in the hill the incipient plants may suffer for food before it is supplied by the fermentation and decomposition of the old sod, particularly if the season is cold and backward.

How long our winter is to lap on to the spring remains to be seen. Thus far, March 10th, there is no amelioration of winter weather by night, and very little by day; the two past mornings found the mercury at five degrees below zero at sunrise, and at noon to-day it is only ten degrees above zero. This is the coldest winter of the century, although in this particular locality, the mercury has not in any instance sank so low, by 15 degrees, as it did during the two cold nights of February, 1855. Then some of our grape vines were killed to the roots, and no peach

buds escaped. Thus far this year they have kept alive. But if we credit the ancient records, the present winter will not compare in severity with the winters of 1717 and 1741. It is recorded that in the latter winter a man drove a horse and sleigh on the ice from Hurl Gate down Long Island Sound, and continued on to Cape Cod. Dr. McSPARREN, of Narragansett Church, leaves record, that from the top of Tower Hill no open water could be seen at sea. S. W.—*Waterloo, N. Y.*

POTATOES.—BUTT ENDS VS. SEED ENDS.—JOHN BROWN, of Long Island, communicates the following to the *Granite Farmer*:

"Several years ago, I made some experiments to satisfy myself concerning the disputed point as to which is the best portion of a potato to plant in order to obtain the largest and best yield. The exact result has been lost, and as I have often since heard and read assertions directly contrary to the conclusions which I then deduced, I resolved to repeat the experiments. Last spring I planted four rows of equal length, side by side, with two varieties of potatoes. In one row I planted none but the seed ends, so called, including about one-third of the potatoes, and in the next row I planted the butt ends of the same potatoes. I had one row of seed ends and one row of butt ends of a variety called Peach-blows. The yield of these four rows was as follows:

Pink-eyes, butt ends	217 pounds.
" " seed ends	170 "
Peach-blows, butt ends	225 "
" " seed ends	179 "

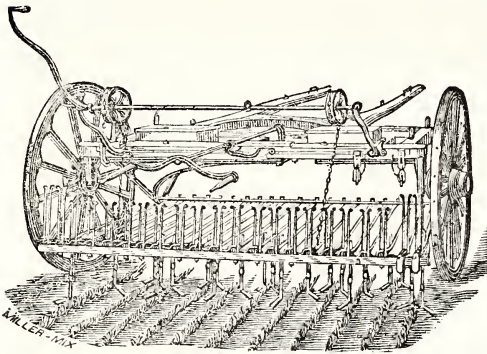
The potatoes raised from the butt ends were much larger than those from the seed ends, and appeared to be from a week to ten days earlier. This result corresponds with that of my former experiment. Had the whole field been planted with butt ends, the yield would have been more than five hundred bushels to the acre. I also planted two rows next to the above; in one of which I put only large potatoes, half a tuber in each hill, cut lengthwise so as to divide the eyes equally, and in the other row I dropped only small potatoes, one in each hill. From the former I dug 181 pounds, and from the latter 134 pounds. I should add that the average yield of the field was about 180 lbs. to the row; and that large (not the very largest) potatoes were used for seed cut lengthwise with a half of a tuber in each hill."

THE YELLOW LOCUST.—Mr. S. CUNE, of Brattleboro', Vt., writes the *Country Gentleman* as follows:

"I will tell you how I managed to get a grove of yellow Locust trees. About twenty years ago, I sowed half a pound of locust seeds in beds, the same as I sow beets or carrots. I prepared my seed by pouring hot water on it and letting it stand a few hours. The next spring, I took up my seedling trees, and set them out on a piece of ground that was so poor that it would hardly turf over. I plowed some furrows twelve or fifteen feet apart, laid the roots of my seedling trees into them, about two feet apart, covered them with my hoe, righted them up with my hands and let them go without further cultivation. At this time I have a beautiful grove of trees, straight and thrifty, and many of them long enough for fence posts. The effect on the land is wonderful. It produces ten times the food it did before the trees were set out. When I took possession of my farm, I found that acre had been skinned until it was almost worthless. Now it produces double the feed of any acre of pasture I have. I take no little pride in showing my trees, and the luxuriant growth of white clover under them."

WHEAT HOEING MACHINE.

SINCE the days of JETHRO TULL, wheat drilling, dibbling, hand and horse hoeing have been more or less practiced in Great Britain. Drilling wheat, barley, oats, peas and tares in rows 7 to 12 inches apart is nearly universal. Dibbling—dropping one seed on each square foot, and so using but a few quarts of seed per acre—is adopted only by such men as HEWITT DAVIS, MECHI, and HUXTABLE. They have found that while it sometimes gave large crops, yet they always had more or less that missed and had to be plowed under in the spring, and the loss from such cases more than counterbalanced the gain from sowing less seed. These enthusiasts, though they will not own it, have dropped the system. Hand-hoeing twice at a cost of \$2 per acre is found very profitable, from increasing the yield of wheat, and still more, from leaving the land clean for the following turnip crop.



GARRETT'S HORSE-HOE.

Wheat hoeing by machinery is a delicate operation. It requires a steady hand to steer straight and avoid cutting up the plants. With GARRETT'S Horse-hoe, here figured, wheat hoeing has been cheaply and effectively performed, and there appears to be good reason to expect that the practice will soon become more general. Wheat can be hoed with it for twelve cents per acre.

The engraving gives such a correct idea of the machine, that little explanation is needed. The thills can be fastened on any part of the frame. The axle-tree is movable at both ends, so that it can be expanded or contracted to suit all lands and different widths of drills. Each hoe works on an independent lever, and thus adapts itself to all inequalities of surface. The hoes can be set to any desired angle by means of the crank on the left side of the machine; it is attached by chains to the jointed iron on which the levers are suspended. The swing steering apparatus is seen at the back of the machine. The cutting blades are made of steel, and of various sizes. Cost, in England, from \$75 to \$100.

EVERY farm wagon or cart should have the cubic feet and bushel contents graven upon the bed before it leaves the maker's hand. A cubic yard is 27 cubic feet; and a cubic foot is 1,728 inches; a cubic cord is 128 cubic feet.

FENCES operate in two ways; if good, they are a defense, if poor, an offense.

THE MICHIGAN DOUBLE PLOW FOR EUROPE.—We have sometimes recommended our English friends to try the Michigan double plow in plowing their wheat stubble in the autumn for turnips the next spring. For breaking up the soil to a great depth, and for smothering weeds, the British farmers have no implement that can be compared to it. A pair of their heavy horses would take it along easily fifteen inches deep. The Canada West correspondent of the *Mark Lane Express*, also recommends it to English farmers as follows:

'We would recommend to the attention of English farmers an American plow, which we here now use to great advantage. It is wide on the sole, and has, preceding the ordinary mold-board, a smaller one mortised into the beam, and regulated in hold by a screw; this turns a thin paring of say two or three inches from the surface into the bottom of the furrow, and is invaluable in clover-lays or dirty stubble. In spring, after it, you will see no grassy, stubbly strip marking each furrow, but all is a clean, fallow-like surface, ready to work with the cultivator or grubber into a most beautiful seed bed for peas or spring grain, giving the seed the advantage of the frost-mellowed surface soil, without danger of a foul tillage. A pair of stout horses work this plow readily, and where the land has been previously subsoiled, can go to a great depth.'

HINTS TO THE MANUFACTURERS OF AGRICULTURAL IMPLEMENTS.—A correspondent of the *Cultivator* says:

"I must beg to give a hint to the manufacturers of implements, as to the very indifferent materials they use for such purposes—which is the old brash, soft, porous ash. Now the proper kind of ash is the best material which can be procured, for such purposes, but on the other hand, the kind designated above is, I think I may safely say, the most worthless of all woods. The time has passed when farmers were unobservant of the difference in the materials in the labor-saving machines which they are now inclined and able to buy to so great an extent. They must now be made well in order to sell well.

"To these same manufacturers, I would also suggest that they would make a much greater aggregate of profit, by offering their articles at a fair price, instead of demanding sums so far disproportionate to the actual cost and a legitimate profit. Farmers are anxious to surround themselves with all these appliances of ease, but not at too extravagant a rate."

MILK CLEAN.—In some careful experiments made by Dr. ANDERSON, the quantity of cream obtained from the first drawn cup of milk was in every case much smaller than the last drawn; and those between afforded less or more as they were nearer the beginning or the end. The quantity of cream obtained from the last drawn cup from some cows, exceeded that from the first in the proportion of sixteen to one. In others the proportion was not so great. "Probably," says Dr. ANDERSON, "on an average of a great many cows, it might be found to run, as ten or twelve to one." The difference in the quality of the cream was also much greater than the difference in quantity. From this it appears, that the person who by bad milking of his cows, loses but half a pint of his milk, loses in fact about as much cream as would be afforded by six or eight pints at the beginning, and loses, besides, that "part of the cream which alone can give richness and high flavor to his butter."



"SOUTHDOWN RAM, "YOUNG YORK," IN TWO POSITIONS;".

THE SHEEP OF GREAT BRITAIN.

CHAPTER IV.

SOUTH DOWNS

IN England, sheep are generally classed into *middle woolled* and *long woolled*. At the head of the middle wools stand unquestionably the South Downs. They are one of the oldest breeds of sheep in Great Britain, and have occupied from time immemorial, the chalky downs of Sussex and other counties of England. ARTHUR YOUNG, who saw these sheep in 1786, speaks of them as affording fine wool, but being very deficient in carcase, having "a thin chine, low fore-end, and rising back-bone." Their zealous advocate, and the breeder to whom they are indebted more than to any other, for the estimation in which they are now justly held, the late JOHN ELLMAN, says of them: "This breed was formerly of a small size, and far from possessing a good shape, being low and thin in the neck, high on the shoulders, low behind, high on the loins, down on the rump, the tail set on very low, perpendicular from the hip bones, sharp on the back, the ribs flat, not bowing, narrow in the fore-quarters, but good in the leg, although having big bone."

By judicious selection and care in breeding for many years, great improvement has been made in the form of the carcase, in early maturity, and in the fattening qualities of the breed. Formerly they were seldom fit for the butcher till four years old; now they are usually very fat at from fifteen to eighteen months old, and it is a rare thing to find a flock of wethers even two years old. The following points of a good South Down we condense from Mr. ELLMAN's description of this breed:

The head small and hornless. The lips thin, and the space between the nose and the eyes narrow. The under jaw or chop, fine and thin; the ear tolerably wide and well covered with wool. The eye full and bright, and not prominent. The orbits of the eye—the eye-cap or bone—not too projecting, that it may not form a fatal obstacle in lambing.

The neck of a medium length, thin towards the head, but enlarging towards the shoulders, where it should be broad and high, and straight in its whole course above and below.

The breast wide, deep, and projecting forward between the fore legs.

The shoulders should be on a level with the back, and not too wide above.

The ribs coming out horizontally from the spine, and extending far backwards, and the last rib projecting more than the others; the back flat from the shoulders to the setting of the tail; the loin broad and flat; the rump long and broad, and the tail set on high, and nearly on a level with the spine. The hips wide; the space between them and the last rib on either side as narrow as possible, and the ribs generally presenting a circular form, like a barrel. The belly as straight as the back; the legs neither too long nor too short; the fore legs straight from the breast to the foot—not bending inward at the knee—and standing far apart both before and behind; the hocks having a direction rather outward, and the twist, or the meeting of the thighs behind, being particularly full. The bones fine, yet having no appearance of weakness, and of a speckled or dark color.

The belly well defended with wool, and the wool coming down before and behind to the knees and to the hock; the wool short, close curled and fine, and free from spirey projecting fibres.

The true South Down, or "Sussex Down" mutton commands the highest price in the London markets. It was formerly claimed by the advocates of the South Down, (and we are among the number,) that not only was their mutton the most valuable, but that more South Down mutton could be produced from a given amount of food, than that of any other breed. However true this may have been previous to the improvement that has been effected in the Leicester, Cotswold, and other long-wooled breeds, it is certainly not the case at present. The experiments of Mr. LAWES, published in the last *Journal of the Royal Agricultural Society of England*—a brief summary

of which was furnished for the *Genesee Farmer* two years in advance of their publication in England, and which will be found in the August number for 1855—prove that, for the food consumed, the large, coarse Cotswolds yield more mutton and wool than the Leicesters; the Leicesters more than the Hampshire Downs, and the Hampshire Downs more than the Sussex Downs. The price of their mutton in the London market, however, is exactly in an inverse ratio to the fattening properties of the breed. The Sussex mutton commands the highest price, the Hampshire next, then the Leicester, and lastly the Cotswold, which is sold for at least three cents per pound less than the Sussex mutton. And it is somewhat remarkable that so exactly does the decrease in price counterbalance the greater increase of mutton, that it is impossible to decide which is the most profitable British breed of sheep. Indeed it is certain that no one breed is the most profitable under all circumstances.

There are several varieties of South Down sheep, such as the Sussex, the Hampshire, the Shropshire and the Oxfordshire or Cotswold Downs. The three last are larger and coarser breeds than the former, and we have no doubt they all lay on more fat for the food consumed than the Sussex.

There are a few Hampshire and Shropshire Downs in this country and the Canadas, but none that we have seen that are really good representatives of the breeds. We are somewhat surprised that they have received so little attention. At the late show of the U. S. Agricultural Society at Boston, P. S. FAY, Esq., of Lynn, Mass., showed some Oxford Downs which are quite remarkable for their uniformity and beauty. We have no doubt that they will prove an acquisition to the sheep breeders of this country.

Our engraving is an excellent likeness of a Sussex Down sheep. "Young York" is the property of L. G. MORRIS, Esq., of Mount Fordham, N. Y., and was obtained from JONAS WEBB, the world-renowned English South Down breeder. He was the winner of the 1st prize at the N. Y. State Show in 1854, and in 1855 the 1st prize at the U. S. Ag. Society at Boston, as an aged buck. He cost in England, *six hundred and fifty dollars*. A more perfect animal probably does not exist.

POINTS OF A GOOD MULE-BEARING MARE.—The district round Poitiers in France, has long been celebrated for mules. It appears that twelve millions of francs are annually realized by the export of these animals to Spain, Italy, and the central and southern parts of France. The Poiterin farmers consider a mare with the following points, especially desirable for mule bearing: A short body, long ribs, wide haunches, wide and low hocks, fleshy thighs, wide hoofs, heels well turned out and hairy; in short, a thick set animal of capacious body, is the right mould for a fine mule. Will some of our experienced mule breeders inform us how this agrees with their observation.

WARTS ON HORSES.—JAS. FULLER, Whiteside's Corners, N. Y., states, in the *Country Gentleman*, that he had a valuable horse with a wart on the inside of the thigh, as large as a man's thumb, three-quarters of an inch long. He applied wafers to it several times. By this means it was removed entirely in a few weeks, without any annoyance to the animal.

TAR, A REMEDY FOR HORSE DISTEMPER.—THOMAS W. LADD, of Smithfield, Jefferson Co., Ohio, writes the *Ohio Farmer*, that he has found a remedy and cure for "distemper" in horses. He says: "Having three colts sick with this disease, an experienced farmer told me to use tar, and he thought that the sick colts would soon recover, and that those who had not taken the disease would not have it at all, or but lightly. I followed his directions to my entire satisfaction. I gave the colts, morning and evening, as much as I could readily get into their mouths with a paddle. After a few applications, the sick ones commenced running at the nose, their appetites returned, and in a short time they had entirely regained what they had lost from disease. The others never took it, to my knowledge.

Some prefer mixing fish-oil with the tar; but I used it alone, and I believe it to be entirely sufficient, if the article be good, pure tar. I would have no faith all in the *coal* tar, now in use in some places."

ATTEND TO YOUR POULTRY.—The *New England Farmer* says:

"When poultry is properly sheltered and fed, disease will only be the exception to the rule of general health. Want of proper food, irregular feeding, too many occupying a small space, exposure to cold, and more than all these combined, *exposure to wet*, are the prolific sources of disease in the poultry-yard. We believe that exposure to *wet* and *cold* is the *principal cause* of loss of the young of all kinds of domestic fowls, including even ducklings. Nearly the whole dismal catalogue of diseases—the pip or gapes, diarrhoea, indigestion, asthma, fever, consumption, moping, rheumatism, roup and vermin may be traced to this. We have lost 50 chickens in a single storm where wind and rain found their way to broods which we supposed were safe."

MEDICINE FOR EWES.—A correspondent of the *Agricultural Gazette*, recommends in all cases where much "handling" has been required during parturition, where "draining" supervenes, or in cases of abortion, the following dose: 2 ounces of Epsom salts, 2 drachms of ginger, and 2 drachms of laudanum. Unless the unfavorable symptoms disappear in the course of 24 hours, repeat the dose. He is satisfied that "during the two last lambing seasons, it has been—in connection with careful nursing—the means of saving many ewes."

AN EXCELLENT FOOD FOR HORSES may be obtained by sowing a mixture of one bushel of barley, one bushel of oats, and about half a bushel of peas. If the ground is rich an immense crop is obtained. It should be cut when the barley is ripe, which will be a little before the oats. They may be threshed and the grain fed to horses, or what is much better, cut up the straw and grain together with a hay cutting machine. This feed is much relished by horses, and we know of no way in which horses can be wintered so economically.

SHEEP KILLED BY DOGS.—A correspondent of the *Ohio Farmer*, W. BONAR, of Mount Vernon, says: "Within less than a year, sheep to the value of upwards of \$200 have been destroyed by dogs within one mile of this place, one hundred dollars' worth of which were my loss, and twenty-five dollars only were recovered from the dog owner."

ATTEND TO THE CHICKENS.—In rearing fowls for the market, the early treatment of chickens is of the highest importance; they should be warmly sheltered and housed, and moreover fed most liberally at very short intervals. If a chick receives a check in its growth at an early age, it never afterwards attains a large size, as the boney frame becomes set, and a stunted growth is the inevitable result.

With good and abundant feeding, and the advantage of a free run, in favorable weather, Dorkings will become fit for the purpose of fattening at the age of three to four months in summer, and four to five or six in winter. In order to be in the highest perfection, fowls must be killed before they have arrived at their full development; the male birds should be taken when the sickle feathers of the tail begin to show, or as the country women say, "when their tails begin to turn;" and the females, whilst still pullets, viz.—before they have laid.

HOW TO MOVE A SULLEN OX.—"Did you never observe," said a plain man, a friend of ours, a few days since, as we were driving a dog out of the cow pen, to prevent his taking refuge behind us—as the cows took him by turns to chase him over the lot—"did you never observe that a cow never will make friends with a dog?" "Often." "Well, the best way you ever tried to make steers rise when they get sullen, and lie down, is just to bring a dog and drop him down on them. It will make them jump up when nothing else in the world will." We seized the hint at once for the benefit of our friends who own such pests as obstinate oxen, and give it to them now. We believe there is no antipathy so universal and so inveterate as that of cattle against dogs, and it strikes us that when all other means fail, that will answer.—*Southern Planter.*

SCRATCHING POSTS, LUXURIES FOR CATTLE.—SIDNEY SMITH used to say: "I am for all cheap luxuries, even for animals; now all animals have a passion for scratching their backbones; they break down gates and palings to effect this. Look! there is my universal scratcher, a sharp-edged pole, resting on a high and low post, adapted to every height, from a horse to a lamb. Even the Edinburgh Reviewer can take his turn; you have no idea how popular it is. I have not had a gate broken since I put it up. I have it in all my fields."

A GREAT LAYER.—The *Banffshire Journal* says: "A duck under the ordinary size, belonging to Mr. HAY, Mill of Laggan, in this district, has this season deposited an egg every day for 143 days in succession. The useful little animal was hatched from the egg of a wild duck, and laid an enormous number of eggs last year. Might it not add to the profits of the poultry yard, if similar experiments in breeding were oftener tried?"

FIVE CALVES IN ONE YEAR.—A correspondent of the *Country Gentleman* says: "Mr. WM. BROON, a milkman near Sandusky City, has a cow in his herd, that brought five calves within twelve months, viz., two in the spring of 1854, and three in the spring of 1855, but all inside of one year." Who can beat this?

If you allow your animals to shiver, your fortune will be shivered in consequence; that is, the farmer who leaves his cattle to the wind, will find his profits also given to the winds.

UNDERDRAINING AND IRRIGATION IN THE STATE OF NEW YORK.—The Annual Report of the Secretary of the N. Y. State Ag. Society, alludes to the progress of underdraining and irrigation in this State as follows:

"The increasing attention to *drainage*—and deep cultivation where needed—is among the most cheering indications of what is now doing for the advancement of agriculture. The great reduction of expense in cultivation where drainage has been resorted to, as well as the increased crops, have called the attention of farmers to the subject, and we are gratified in being assured from the various County Reports, as well as from the examination we have made, that the subject is now eliciting the careful attention of the agricultural interest. And while very much remains to be done, it is most encouraging that the recommendations of the Society are being so extensively carried out in practice. *Irrigation*, also, which has but lately been brought to the attention of the farmers, is now attracting notice, and several experiments, which have proved highly successful, will be found among the papers presented for publication—and the question as to the water best suited for irrigation, which is undergoing discussion and examination, is one of very great importance."

CARBONACEOUS MANURES FOR HOPS AND WHEAT.—The *London Farmer's Magazine* gives an account of some experiments made by Mr. PAINE, of Surrey, to ascertain the best manures for hops, from which we extract the following:

"The manures tried were of mineral and organic substances, alone as well as mixed, and each plot consisted of one-eighth of an acre. This land offered great variety of soil, resting on the upper and lower chalk, the freestone, and the gault. The result of his trials was that rape-cake, singly and in combination, for four years in succession proved invariably the best carbonaceous manure for his crop and land. He had found hops, turnips, cabbages, mangels, and generally all large-leaved and rapidly-developed crops, benefited by fish, whale-blubber, oil, and fatty matters; but that, on the contrary, his corn crops, [wheat, barley, oats, &c.,] derived no benefit whatever from carbonaceous manures."

This, our readers will perceive, is in accordance with the Rothamstead experiments. Carbonaceous manures, in conjunction with soluble phosphates, were there found of value for turnips, but of no value for wheat.

CARROTS are worth full half as much as corn in the ear to feed either horses or cattle. Our neighbors sometimes offer us *oats* in exchange for carrots, bushel for bushel, and we can raise two bushels of carrots cheaper than one of oats. We have fed our horses more carrots than grain every winter and spring for years, and never have one sick.—*Prairie Farmer.*

ASHES ON POTATOES.—A correspondent of the *Boston Cultivator*, has experimented with ashes on potatoes for three years. The ashes diminished rather than increased the yield, and the potatoes where ashes were used were blistered, each year, so as to be unsaleable.

If you wish to give an energetic movement to all your farm machinery, and keep its hundred wheels in rotation, be sure not to be without a good rotation of crops.



Horticultural Department.

THE FARMERS' GARDEN.

PEAS.—One of the first crops to be attended to as soon as the weather opens, is peas. They should be sown on a warm, dry border, as soon as the frost is out of the ground. To get them early, it is indispensable to pole them, and consequently the first peas should be sown in single or double rows, three or four feet apart. One quart of the *Prince Albert* will be enough early peas for most families. It is a dwarf grower, and will not require poles more than 2½ or 3 feet high. The later kinds can be grown without poles, in rows 18 inches to 2 feet apart. As the peas grow, hoe the soil up on the southern side of the rows. This will make them fall all one way, and the peas can be gathered without much difficulty. With little trouble, every farmer may have an abundant supply of green peas all through the summer months; and certainly there is no vegetable that is so universally agreeable; they are also healthy and nutritious.

CELERY.—If not already sown in a hot bed, celery should be immediately sown in one of the warmest spots in the garden. The principal reason why it is so difficult to obtain good celery, lies in the fact that the plant is an exceedingly slow grower when young. On this account pains should be taken to force it as much as possible during its early stages. But there is danger of making the plants too wiry. To prevent this, the plants should be transplanted at least once before being set out into the trenches. The *White Solid*, if it can be obtained genuine, is one of the best varieties known.

LETTUCE.—If you have lettuce plants in the hot bed, they may be transplanted into rows a foot apart as soon as the weather becomes warm, and the ground dry. If not, seed should be sown in a warm border as early as possible. They may either be sown broad cast, quite thick, and afterwards transplanted into rows, or, if this is thought to be too much trouble, they may be sown in rows sufficiently wide apart to admit the easy use of the hoe. It is well to use plenty of seed, as the plants can be thinned out and supply small lettuce early. Lettuce delight in rich, dry mould. They transplant with difficulty, and it is therefore generally advisable to sow them in the rows where they are intended to remain. Frequent hoeing is very advantageous. Except turnips, we know of nothing on which a good superphosphate of lime has such a marked effect as on lettuce. It stimulates their growth in a most surprising manner, besides improving the quality of the lettuce. It may be sown

with the seed, as it does not injure its germinating principle. On some soils plaster may be beneficial, but we cannot speak from experience on this point.

RADISHES.—For radishes, the soil should be light and deep, but not too rich. They require very little care in their cultivation. They may be sown among onions, carrots, beets, &c. They should be thinned out, if too thick, to at least an inch apart. When young and crisp, and of a good kind—such as the *Winter Rose*, *Early Oval*, and *Long Scarlet*—the radish is a universal favorite. But when old, pithy and scabby, it is hardly fit for the hogs. Coal ashes are said to be an excellent dressing for radishes.

CABBAGE.—The several varieties of the cabbage tribe should be sown as early as possible, in a light soil, in a warm part of the garden. They may be sown pretty thick, and when about two inches high, should be transplanted. Nothing improves cabbage plants so much as transplanting; giving them a stocky, hardy growth. Superphosphate of lime sown with the seed—say from one to two ounces on a square yard will be found very beneficial to cabbage, especially during the early stages of their growth.

The same remarks will apply to broccoli, cauliflower, &c. These delicious vegetables are worthy of much more attention than they receive. It has been supposed that this climate is not well adapted for these plants. We admit that good cauliflowers, broccoli, &c., are rarely ever found in an American garden; but the difficulty lies not so much in the climate, as in the careless method of cultivation. Did we take as much pains as the London gardeners, we could grow cauliflowers nearly or quite equal to those which every American so much admires, the first time he enters Convent Garden Market. Last year, we saw at several of our exhibitions, heads of cauliflower, which would compare favorably with the best we have ever seen in England. We repeat, with good kinds—such as the *Early Paris*, *Large Lenormand*, and *Walcharen*—and with care and judicious cultivation, every farmer may have his table abundantly supplied with this daintiest of esculents.

CARROTS.—Few farmers know what a good carrot is, and hence this vegetable does not hold that rank in an American garden which its intrinsic merits deserve. In France and England, small early carrots are considered a delicacy. We opine that if a few seeds of the *Early Short Horn* were sown in a warm, light, well prepared soil as early in the spring as the ground could be got into good condition, and the plants were pulled when not more than half an inch in diameter, carrots would go up an hundred per cent. in the estimation of those who had the good fortune to partake of them.

Carrots should be sown in rows wide enough to admit the use of a small hoe. It is not well to be too sparing of seed, for if the plants are thick we can early see where the rows are, and be able to use the hoe before the weeds get so thick that it is difficult to see the carrots. The plants, however, must be thinned out to at least an inch apart in the rows for the early crop, and for the main crop three or four inches. No error is more common, and none more injurious, than leaving plants too thick in the garden.

TOMATOES.—It is an object with all good gardeners to get tomatoes early. For this purpose the seed should be grown in a hot-bed, as stated in our March number. But where hot-beds are not used, the best method of getting early and hardy tomato plants is

to let the ground where the plants grew last season remain untouched. The self-sown seed which has been in the soil all winter, will germinate earlier, and the plants, it is said, will be hardier than when sown in any way in the open ground. The plants may be transplanted when they have pushed three or four leaves, being careful to disturb the soil and the roots as little as possible. They should be planted from three to four feet apart. A warm, dry, rather gravelly soil—not too rich—produces the earliest tomatoes. One of the best varieties is the large, smooth red. The yellow is a milder variety, and would be grown for its beauty, even had it no other recommendation. The pear and cherry-shaped are fancy varieties.

PARSLEY.—This is a biennial. The seed is very slow in germinating. It should be sown as early as possible, either in a bed by itself in drills twelve or fifteen inches apart, or as a border around the beds or walks. The plants must be thinned out in the rows three or four inches apart. The curled variety is the one most generally admired.

POTATOES.—A few rows of an early variety should be planted in a warm part of the garden as soon as possible. If the potatoes are kept in a warm room a week or two before they are planted, the eyes will start, and in this way potatoes are often obtained a week or ten days earlier than when planted in the ordinary way.

BEANS.—Lima beans must not be planted too early, for they are apt to be destroyed by the cold, wet weather; but the *Broad* or *Windsor Bean*—which is still a favorite with many of our English readers—cannot be planted too early; if not planted till late, it certainly will not succeed in this climate. They should be planted in a cool and somewhat shady part of the garden. We must defer our hints on the cultivation of beans till the next number.

ONIONS.—When onions are sown broadcast the labor of weeding them is very great. When a boy, we have spent many a weary hour in doing that, which, had the onions been sown in rows, so that they could be hoed, might have been accomplished in half the time, and in a better manner. Certainly nothing is more foolish than to sow onions broadcast. Indeed we may say the same of almost every garden plant. The early and constant use of the hoe saves an immense amount of labor in weeding, and benefits the plants by stirring the soil and thus keeping it moist.

HORTICULTURE IN WESTERN NEW YORK.

In the *Proceedings of the Fruit Growers' Society of Western New York*, recently published, we find, in the reports of the County Committees, some exceedingly interesting and useful information, a portion of which we condense:

CULTIVATION OF PEARS.—In Ontario county, several pear orchards have been planted of late, some of which contain as many as seven hundred trees. The *Virgalieu* is the favorite. There are probably ten thousand trees of this variety in the county. The pear is a certain crop every year. It is the opinion of the committee that a pear orchard at present prices will average \$300 per acre per annum. Instances of immense profits from pear trees are given.

In Yates county, "the few pear trees that are planted grow well, and indicate that it will be a profitable crop."

L. F. ALLEN, of Erie county, states that last year the late pears in that vicinity ripened full three weeks earlier than usual. He thinks that, having tested those varieties that possess the best flavor, and which prove the best growers and bearers, we should confine our efforts to not exceeding ten or twelve of them for the family and for market. As a market pear, the *Bartlett* stands first. "The *Virgalieu* will spot and crack even in the best fresh soils."

APPLES.—In Ontario county, apple orchards, with good culture and good varieties, will nett, on the average, fifty dollars per acre. Orchards are mostly in pastures or meadows; trees old, and decaying rapidly. Quality of fruit continually growing poorer. There are a few splendid orchards, which are remarkably productive. They are thoroughly pruned, ground well tilled and manured, and pastured the latter part of summer and through the fall, with hogs, to eat the fallen wormy apples. The greater proportion of grafted fruit is *Rhode Island Greenings* and *Roxbury Russets*. Several instances are given where large profits have been obtained from apple orchards. S. HENDEE, of West Bloomfield, sold, beside what he put up for his own use, \$125 worth of apples from one acre, in the fall of 1854. His average is \$75 per year. He manures with long manure, and grows crops of grain and grass among his trees. S. D. MILLINGTON, in the same town, sold his crop of apples in the fall of 1854, from three acres, for \$330. Nine *Northern Spy* trees, eight years from grafts, produced 45 barrels of superb apples. His crop last year (1855) amounted to 700 barrels, worth \$524. His *Northern Spy* trees bear every year. He mulches his trees with straw and straw manure; grows no crop among his trees; prunes thoroughly, and gives his *Northern Spy* trees an open head.

In the report from Genesee county, it is stated that Mr. NORRIS, of Bergen, receives annually, from a two acre orchard of *Northern Spys* and *R. I. Greenings*, from \$150 to \$200, beside saving enough apples for family use. The trees are so far apart that the land produces a good crop of grain every season. The trees are well pruned.

In Schuyler county, near the village of Havana, apple orchards are now bearing that were planted by the Indians, the trees of which had attained a large size when the country was settled by the whites.

PLUMS.—The curculio and the black-knot are serious drawbacks to the cultivation of this delicious fruit.

The report from Ontario county says: "Plum trees are nearly all gone by the board. The black-knot has destroyed them."

In Tompkins county, "of late years, owing to the general prevalence of the black-knot on the plum trees, the quantity raised has been very much diminished."

In Erie county, "the black-knot on the plum is becoming very prevalent. Until eight or ten years since it was unknown, and then it was of rare occurrence. It has been steadily increasing in spite of the usual remedy—cutting and burning."

In Genesee county, "the black-knot on plum trees prevails to such an extent that it is difficult to find a healthy tree of many years' growth; and where but a few years since were plenty of trees of this fruit in a healthy bearing state, scarcely a tree remains."

In Oswego county, the black-knot has nearly disappeared, and in the report from Wayne county, J.

J. THOMAS says: "Black knot on plums may be kept off by constant cutting; washing large wounds in chloride of lime of strong solution."

In Schuyler county, "dried plums form quite an important item of the products of the country. We know a single merchant who has paid over \$2,000 for dried plums in a single year."

PEACHES.—The cold winter of 1854 and '55 destroyed all the peach buds about Western New York, and many of the old neglected trees. The cherry trees were also more or less injured.

IMPORTANCE OF SHELTER.—The report from Monroe county says: "We have often noticed the beneficial effects of shelter in the peach orchards, which being pretty large and thickly planted, have the effect of sheltering each other. The trees in peach orchards uniformly produce more fruit in proportion to the number of trees, than small lots of detached trees, and for no other reason that we can see, but because of that protection they receive from each other." They urge farmers to spare as much of the original forest as will serve the purpose of shelter, and especially "those straggling belts of chestnuts, oaks and hick-ories, which mingled with pine and cedar, have sprung up spontaneously along the summits of the ravines, and upon the sandy hill-sides of our lake towns."

It is to be regretted that so many of the County Committees have neglected to send in reports. Western New York is confessedly one of the best, if not the best, fruit-growing section in the Union, and could full and detailed reports be obtained from each county, we should be in possession of a mass of useful and practical information, that could be attained in no other way. Mr. BARRY, the chairman of the general fruit committee, is entitled to much praise for the manner in which he has drawn up the circular requesting information from the various County Committees. The idea is a good one, and nothing is needed but the general co-operation of the County Committees, to render it productive of highly beneficial results.

: CULTIVATION OF THE CRANBERRY.

A SHORT time since, the *New York Tribune* contained a series of articles on Cranberry Culture, which attracted some attention. These articles have been thrown into book form, and, together with some additional particulars, have been published in a neat little volume by C. M. SAXTON & Co., of New York.

The author, the Rev. B. EASTWOOD, inclines to the opinion that uplands are not well adapted for the cranberry. It is not a native of the upland, and will never do well in such situations if the plants can not obtain an abundant supply of moisture. One of the oldest cultivators on Cape Cod says: "If you plant on the upland, it is difficult to raise your vines to bearing perfection, and it will entail much labor and expense on him who undertakes it." Soil containing stagnant water is also to be avoided. The location most conducive to the full development of the berry, is a low, moist swamp, facing the south, and sheltered from the cold, raw winds. As a general rule, it is best to have the water within twelve inches of the surface. A gradual slope, coming down to the edge of a pond, when properly prepared and planted, makes the best of "yards." Dead levels by the side of ponds should be guarded against. Rich alluvial soils cause the plants to abound with healthy foliage and vast quantities of runners, but they produce no

fruit. Manuring is wholly out of the question. Clay or marl are totally unfit for cranberry cultivation, and all heavy, rocky loams, should be avoided. Dead sand, water, and air, are the elements upon which the cranberry feeds the best, and attains its highest degree of perfection. That soil and location which has these advantages, is best adapted to the growth of the berry.

The Cape Cod cranberry cultivators prefer beach sand to any other soil. It is light and porous, admitting the atmosphere freely to the roots of the vine, and is found to be the only soil in which the rank weeds can be effectually kept down.

Peat is next in value and importance to the beach sand for the growth of cranberries; but it must be carefully prepared. The top turf should be taken off. It should then be left exposed to the frost and weather for one year. When the frost is thawed out of it, it will crumble and be powdery, and will never cake afterward, as would be the case if planted without exposure to the frost immediately after taking off the top turf.

In planting, the first object is to procure healthy vines. Such vines present an appearance of greenish-brown on the leaf; the spears and runners are fine and thin, remarkable for their wiry nature and aspect. They seem of stunted growth, but form beautiful and tufted groups of spears in their powers of matting. Unhealthy vines appear altogether brighter and stronger.

Cranberries may be planted either in the fall or spring. Where the land is not flooded, spring planting is best. May and the early part of June are believed, on Cape Cod, to be the most favorable months for spring planting. The author thinks the following method one of the best known:

"On obtaining the sod, and before planting, you take the sod on which the vine is growing, examine it closely, then place your fingers beneath or among the roots and tear them out as carefully as you can. When this is done, separate the vine into as many as you can conveniently, but be careful to leave two or three small spears or runners on the roots. When you plant, place the roots in the soil first, then spread out the spears or runners, and bury them in the soil, but being careful to leave out of the earth the ends or tips of those spears or runners.

"The reason for this method is, that from those parts of the spears or runners which are buried in the soil will start new roots, and each root will be a new vine, and instead of only having one root from which the vine may start, you have two, or a half dozen, according to the number of spears on the vine you plant. This is a favorite method among the most successful growers of the cranberry. A patch planted on this system mats rapidly, and has rarely been known to fail."

The plants may be propagated from seeds, but it is slow work.

When the vines have been planted, their development depends upon the treatment they receive from the cultivator. If they are neglected, they will have to contend against grass and weeds, and their thrifty growth will be impossible. The weeds must be destroyed by walking over the patch and pulling them up, or by the use of the hoe. After the second or third year, the vines will take care of themselves, and will eat out weeds and grass, and thus leave but little to be done by the grower.

The *Cape Cod Bell* cranberry, and the *Cape Cod Cherry*, are among the best varieties.



THE BIGARREAU TARDIF D'ARGENTAL CHERRY.
(Late Bigarreau of Argental.)

This is a French cherry, not of so much importance as to be recommended for small collections or for general cultivation, but rather as a distinct and somewhat curious variety for the experimenter and pomologist. It is described in *The Fruit Garden*, No. 33. Fruit—large, long, dark shining red, nearly black when fully ripe. Flesh—tender for a cherry of this class, very juicy, and possessing a peculiar flavor approaching that of the raspberry. The tree is an upright, vigorous grower, thinly branched, with long, narrow, wavy leaves. During the first three or four years of bearing, the crop was light, and I had set it down as rather unproductive; but for the last two years it has borne heavy crops; and as its season of maturity is rather later than most other sweet

cherries (latter end of July), it fills up a space very well. It comes in with the old *Late Bleeding Heart*, which it resembles, but is, I think, superior every way. It has not been much propagated, and I am not sure whether it can be had in any of the nurseries. B.

RAISING FRUIT FOR MARKET.

In your March number I observe a communication on this subject, signed F. W. L., which commences with the remark that "there seems to be a perfect mania created for fruit-raising." The writer goes on to speak of the millions of trees annually propagated by nurserymen,—of horticultural societies urging farmers to abandon grain-growing, and turn their attention almost exclusively to fruit,—of "*Morus multicaulis*," "Tree Corn," "Shanghai Fowls," &c. Now, sir, with due respect to your correspondent, I must say that his remarks are calculated to create a false impression. I claim to be tolerably well informed respecting the condition of fruit-culture in all parts of the United States, and I certainly am not aware of any locality in which there is a spirit of planting approaching a *mania*. Is it so in Western New York, where fruit has received as much attention perhaps as in any other section? Carefully prepared reports from nearly every county represent fruit-culture as in a very backward condition; the apple only being grown to any considerable extent, and that in a very imperfect manner. The census returns show pears, cherries, and plums, in only four or five towns of the county of Monroe. The town of Greece, in which your correspondent resides, is the greatest fruit-growing town in the county, and reports only 642 bushels of pears, 124 of cherries, and 15 of plums. In the very heart of the most noted fruit-growing region of the United States, we may find nine-tenths of the agricultural population almost destitute of fine pears, cherries, plums, apricots, &c.; and a very large number do not possess even a fair supply of the best apples.

The millions of trees that are propagated, are scattered in handfuls over our immense domain, comprising thirty-six States and Territories, in which the number of acres of improved land is set down at nearly 120,000,000, and the population at about 20,000,000. The quantity of fruit trees grown and planted in the United States, compared to this population and territory, indicates anything but a *mania* on the subject of planting.

May I ask F. W. L. to look into these matters more carefully?

Then, as for societies or individuals having recommended farmers *anywhere* to abandon grain-growing, and turn their *whole* attention to fruits, F. W. L. is mistaken, as he will find by reference to what has been said on this subject. All that has been done, in this respect, was intended to call attention to the peculiar advantages which the land-owners of certain parts of Western New York possessed for cultivating fruit for market; and that under the present circumstances, resulting from the settlement and progress of the West, and the extension of railroads, they might advantageously appropriate *more* of their lands, and bestow *more* of their skill and capital, to fruit-culture than they do at present. This is all. B.

DURING mild weather in winter, hardy fruit trees may be pruned, as well as grapes.

WEGEILIA ROSEA.

WEGEILIA ROSEA was introduced into England by the London Horticultural Society, from China, through their very successful collector, Mr. FORTUNE, about the year 1854 or 5. When it was first introduced we used to consider it difficult to make it flower; the plants would grow luxuriously, but owing to the warm, moist atmosphere frequent in the fall of the year in England, it did not ripen its wood thoroughly, its flower buds were not elaborated, and they and its wood remained soft all winter. Consequently, in the spring its flowers were few, and its leaves abundant.



WEGEILIA ROSEA.

In order to make it flower freely, we would take up from the ground in the fall, strong one year old plants, and pot them in ten inch pots, in a rich loamy soil. When winter set in, they were placed in the coldest part of the greenhouse, beneath the stage, there to remain until they began to grow, when they were brought forward to the warmest part of the greenhouse, and to the light, and grown freely until midsummer, at which time they were turned out doors and placed in the most sunny and exposed situation, and water given just sufficient to keep them from flagging. By this means we gave them a long autumn of partial rest, and when it was time to house them in winter, we found that the wood was all well ripened, and firm up to the terminal bud. Early in December they were introduced to the coldest part of the forcing house, and brought to the warmest by degrees. Early in the month of March we were amply rewarded with the utmost profusion of the most delicate light rose colored, trumpet shaped flowers, and in warm sunny days, of the most delicious fragrance. At

least, that was my experience down to 1850, near London. But its difficulty of flowering might have been in part owing to its recent introduction, and in consequence of the plants being young.

How different in this country! It seems admirably adapted to the climate of Western New York. Our clear autumn weather brings its wood to perfect maturity, and enables it to stand our severest winters without injury. It is as hardy as a currant bush, and wherever a currant bush will grow, *Wegeilia rosea* will thrive; but of course the better it is cared for, the better will be the reward. It has stood the last two or three winters here, without any protection,

with impunity; and I have once seen the mercury 22° below zero.

Wegeilia rosea deserves a place in every garden, in every lawn, in every shrubbery, and when in flower in the winter, a very conspicuous place in every greenhouse and conservatory. Its flowers are delicate enough for the composition of the choicest hand bouquet. It is one of the very best forcing shrubs we have. I forced a large plant last winter, and it flowered profusely. After it had done flowering it was divided into three, and planted in the garden. I have a part of the same plant being forced again, and it is just coming into flower. We have a large plant five or six years old growing clearly by itself on the lawn, in which position it flowers best and looks best. Every summer some of its branches are literally bowed to the ground with the weight of its profusion of flowers. Cuttings of the present season's growth, taken at midsummer and potted in equal parts of leaf mould and lake sand, with good drainage, and placed in a cold frame, and properly watered and shaded, root freely.

Cuttings taken from plants that are being forced, and managed in the same way as recommended for the summer cuttings, but placed on a gentle bottom heat, root more readily; they are not so succulent as in summer, and therefore are not so liable to rot. It also roots freely by layers. J. SALTER—*Rochester, N. Y.*

TRANSPLANTING LARGE TREES.—Trees of much size may be safely transplanted by adopting the following practice. One, two, or three years before removing, dig a trench all around the tree, so as to cut off all the roots at a proper distance from it—this will cause numerous shorter ones to spring from the larger roots, and when the tree is removed, a much fuller mass of fibres within the dug circle will be obtained and but little check given to the tree in consequence. The safety will be increased if this mass of fibres is removed with a ball of earth. If the trench has been dug or renewed and the hole dug for the tree, the previous autumn, the ball of earth and tree may be carried on a sled in winter in a frozen state. It should be remembered to make the hole considerably larger, say one foot all round, than the ball, and fill this space with rich soil. Remember also to mulch the trees before midsummer.—*Country Gentleman.*

Ladies' Department.

THE WIFE'S INFLUENCE.

"I DO wish, HARRY, that I could have a garden this summer, like the TOWNSEND'S! How nice it would be to raise all the currants and strawberries that we should want. Just think of those beautiful large strawberries that we saw at the exhibition last summer; would they not be delicious with sugar and cream, for tea, when you come in so tired, in the hot weather in June?"

To this query of his young wife, as she were seated together at the window, one evening early in the spring, just after the snow had disappeared, and vegetation was beginning to unfold the evidences of its vitality after having endured the storms and rigors of an almost arctic winter, HARRY MANLEY assented, but urged as a plea for not commencing the execution of the proposed task, that as he had a new farm, and his means were limited, that it would not be advisable to devote his time to the cultivation of such articles as were not really necessary, or that would not procure some return in cash, and that the idea of revelling in strawberries and cream was altogether too poetical for a poor, young farmer to indulge in.

The wife, however, continued to paint the picture she had already drawn, in more glowing colors. The currants, she said, would last for six weeks during the hottest weather, and after they were once planted, they would require but little care. Vegetables also could be grown, which would more than repay all the labor bestowed upon them; lettuce and radishes in a few weeks would be ready for use, and then would follow cucumbers and tomatoes, that would last till destroyed by the frost in the fall; and if there could be some rhubarb planted this spring, another year they could have such excellent pies. A few flowers, too, could be planted along the edges of the walks, which would furnish bouquets for the table.

In this way she continued, until she fancied that her happiness would be complete if her desires in this respect were gratified.

HARRY, however, although an excellent farmer, had never acquired a taste for gardening, and still continued to think his wife's ideas altogether impracticable at the present time. It is true he had some obscure notions of sometime having a garden—when he had more time, and when the duties of his farm did not call so loudly for their immediate discharge; in fact, as he used to say, "when he got time." He had even gone so far the year before, as to fence in about half an acre of ground on one side of his house, and cultivated it in carrots for his stock.

This spot the wife's fancy, in her dreams that night, invested with all the beauty and loveliness of Eden. Graceful trees, with their boughs pendant to earth, with their golden burdens swept by the gentle breezes, murmured harmonious strains; flowers of surpassing loveliness, of every pleasing form and hue, filled the atmosphere with delicate perfume; brilliant plumed birds flitting from tree to tree, made the air resound with enrapturing music. The eye, the ear, the taste, the smell, every sense was gratified.

But alas, this was a dream. The shrill notes of the cock, just as the daylight appeared in the east, awoke the dreamer from her slumber, and brought

back the mind from its beautiful wanderings. She arose, and casting her eyes through the window they fell upon that garden spot; but how unlike the vision of her sleep! nothing there but the black bare earth. She looked at it steadily for a few moments, and then turned away with a new resolution.

That morning she said no more to her husband on the subject of the last evening's conversation, and to his mind it did not again recur, as it was entirely devoid of interest to him.

After HARRY had gone out upon his farm that morning, his wife repaired directly to neighbor TOWNSEND'S, about a mile distant, whom she saw long before reaching the house, busy at his hot-bed. As she entered the gate to go to the house, she found Mistress TOWNSEND with her daughter loosening the earth in a bed of crocuses and hyacinths, which were just beginning to put forth their blossoms. She was greeted with a hearty welcome, and taken from plant to plant and their names were repeated, and a great many things told about them, which was all like so much Greek to our devoted novice.

But many things she did learn, and when she was ready to leave, she had been in every nook and corner of the garden and had told the TOWNSENDS all that she wanted to do, and received a hundred promises of all the assistance they could render, together with quite a collection of seeds, and some cuttings of white and of red Currants. After many expressions of heartfelt thankfulness to her kind friends, she started with her precious gifts, to commence operations in a new sphere.

Arriving at home, she repaired to the little enclosure, and with the help of the servant girl, planted the currant cuttings in a long row on one side of the garden, about three feet from the fence, first cutting out the buds from that part which was inserted in the ground, as Mr. TOWNSEND told her, to prevent suckers from coming up. The servant girl appeared quite astonished at the procedure of her mistress, and did not fail to declare her lack of confidence of seeing live bushes come from such little sticks. This operation finished, the next was to prepare a bed for sowing some Lettuce seed, which by the united exertions of both, after an hour's toiling, was finally accomplished, and the seed scattered on the surface and raked over; true it was not done in a very artistic manner, and a scientific gardener would no doubt have smiled at the attempt; but in the eyes of our heroine, it was a proud achievement, and after she had started to go to the house, she turned once more, and with eyes sparkling with delight, reviewed her morning's work.

With joyous anxiety she waited for HARRY to come at noon, and when at last she saw him approaching down the lane, she ran to meet him, and conducted him immediately to the scene of her labors. HARRY looked at the garden with much pleasure, but was highly surprised at his wife's enthusiasm.

As she now told him all her plans, he began to be interested, and every morning and evening worked with a hearty will in the little garden, and soon gave it such an appearance as he had previously thought would require years to accomplish.

By the assistance of the TOWNSENDS they set out a large Strawberry bed, and a plat of Raspberries, and a dozen roots of Rhubarb, and sowed beds of many kinds of vegetables, and laid out walks, and decided upon many improvements for another year, when they

would plant some trees of the choicest fruit, and some fine flowering shrubs along the borders.

From this time HARRY and his wife continued to take great pleasure in gardening, and now HARRY is one of the most scientific horticulturists in all the country about, and although a dozen years have not elapsed since he commenced, he has orchards that yield him an annual profit of eight hundred dollars.

Could you see the house, covered with climbing roses, clematis and honeysuckles, and the broad, smooth, lawn, interspersed with beds of the loveliest flowers, and shrubs and trees of exquisite beauty, you would discover that HARRY's wife had acquired great skill in the practice of her cherished pursuit.

TAKE CARE OF YOUR EYES.—Never use a writing desk or table with your face toward a window. In such cases, the rays of light coming directly upon the pupil of the eyes, and causing an unnatural and forced contraction thereof, soon permanently injure the sight. When your table or desk is near a window, sit so that your face turns from, not towards the window while you are writing. If your face is towards the window, the oblique rays strike the eye and injure it nearly as much as the direct rays when you sit in front of the window. It is best always to sit or stand, while reading or writing, with the window behind you; and next to that, with the light coming over the left side—then the light illumines the paper or book, and does not shine abruptly upon the eye-ball. The same remarks are applicable to artificial light.

A GREENLAND LADY'S DRESS.—This consists of seal-skin stockings with the fur next to the foot, and of such length as to reach above the knee. Over these is drawn a pair of seal-skin boots, with the fur outside, so that the boots are in truth a seal-skin of double thickness, with the fur outside and inside too. The pantaloons are of seal-skin, something in the form of old-fashioned knee-breeches. A jacket of seal-skin, fur inside, fits close to the body. The outer habiliment is a loose jurrah of calico. Around the neck is a ruff of dog's fur, but underneath this is a white or black handkerchief tied snug to the neck. The dress when ornamented, is quite a handsome one, as it is the best of the Bloomer style.

WHY BUTTER IS DEAR.—Is the following, from the *New York Tribune*, true or fabulous?

"There was a fine pasture all over the country last year, and the price of butter ought to be down to a shilling a pound. Why isn't it? Because the women and girls don't know how to make it. For twenty years past, the girls' butter-making education has been sadly neglected. They can play the piano, but cannot churn; can dance, but cannot skim milk; can talk a little French, but don't know how to work out the buttermilk. The women who made the butter in Westchester, Dutchess and Orange counties twenty years ago, are passing away, and there are none to take their places. That's why butter is high."

BAKING BEETS.—A lady writer in the *American Agriculturist*, says of baking beets:

"Being washed, with as little of the skin cut as possible, we bake them till done, when the outer skin is removed, and the beets served up according to taste. The sweet juices which inevitably escape while boiling, are retained and concentrated, and one who has never eaten them would be surprised at their superior flavor."

HINTS FOR HOUSEWIVES.

TO MAKE POTATO YEAST.—Pare, and boil very tender, fifteen medium sized potatoes, mash fine while hot, add one large spoonful of flour, and two spoonfuls of sugar, stir them in, and pour on boiling water (it must be boiling,) to make it a thin batter. When luke-warm, stir in one teacup of common yeast, and set it in a warm place to stand over night. This yeast will keep good two weeks in cold weather, but in summer should be made fresh for use. This quantity is sufficient to make eight large loaves, and is preferable for biscuit, muffins, rusk, etc., to any other kind. In using, it should be strained through a colander, by pouring the milk upon it, to free it from any lumps of potato which remain unmashed. Much is said and written of the injurious effects of saleratus in cooking, and we can assure those who will try it, that their bread or cakes made in this way, will be better without it than with it. Bread made with this yeast retains its freshness and is tender and good much longer than with common yeast.

A GOOD JELLY CAKE.—Take three eggs and beat them thoroughly; add one cup of sugar and one cup of flour. Stir these well together, and add one teaspoonful of cream of tartar, and half a teaspoonful of soda—the latter to be dissolved in a very little water. Bake in two pie tins as evenly and quickly as possible, taking much care that it does not bake too hard around the edges. A sheet of writing paper laid over the top will often prevent it from burning or browning too much. Have ready a clean towel or cloth, and when the cake is done, slip it out bottom side up on the cloth; then spread the uppermost side quite thickly with currant or other tart jelly, and commencing at the end, roll it up, when it will be a round, compact roll. When used, slices are cut from the end. Jelly cake made in this way will keep moist and good for weeks and months.

TO MAKE SHARP MUSTARD.—It is a curious fact that mustard seed *whole* does not contain any *volatile oil*. This is only developed (and very gradually) if the powdered seed is moistened with cold or luke-warm water. The peculiar constituent of mustard, *myronic acid*, is changed under the influence of the albuminous matter of the moistened mustard powder, into the volatile oil of mustard. Hence, if pungent mustard is desired, it should always be moistened with water sometime before it is used. Hot water, since it coagulates the fermenting albuminous matter, should not be used.

"**MINUTE PUDDING,**" may be made in a period of sufficient brevity to fully justify its name, as follows: If you have some stale bread on hand, put a pint of sweet milk in a frying pan, cut the bread up in it, put in a tablespoonful of allspice, a little nutmeg will help it, let it boil, as soon as it is soft, stir in an egg, and it is done.

TO REMOVE GREASE SPOTS.—Put on powder of French chalk, and place a piece of blotting paper over it; then pass a hot iron over the blotting paper. The heat liquifies the grease, the chalk absorbs it, and the excess of grease is absorbed by the blotting paper.

HAIR OIL.—The best hair oil is made by mixing high-proofed alcohol and cold-pressed castor oil. These ingredients are the base of all the celebrated hair tonics.

Youth's Department.

GARDENING FOR YOUTH.

ANNUALS CONTINUED.

NEMOPHILA INSIGNIS AND N. MACULATA.—These are also natives of California, and the rearing of them cannot be too highly recommended. They are both beautiful dwarf plants; the former produces lovely little flowers of a blue color like the finest ultra-marine softened in the center into white. The blossoms of *N. maculata* are larger than *N. insignis*; they are whitish in their ground color, and each petal is tipped with a deep violet spot. Seeds may be sown during any of the spring or summer months.

IBERIS—Candytuft.—The plants of this genus were called Candytuft because their flowers are produced in tufts, and because *Iberis umbellata*, the first kind introduced as a garden flower, was brought from the island of Candia, in the Mediterranean Sea. It was first introduced into England about the year 1590. There are several varieties of this plant.



PURPLE CANDYTUFT.

The Purple Candytuft grows about a foot high, with spreading branches and large heads of purple flowers. *Iberis odorata*, is a sweet scented variety, but the flowers are inferior to most of the other sorts. The Rocket Candytuft is by far the most splendid of the genus. The plant, when well grown, is about two feet high, branching widely, and producing three or five racemes of flowers six or eight inches long, and the centre one eight or ten inches. Sow in April or May, on a rich soil.

MATHIOLA ANNUA—Annual or Ten-week Stock.—A plant growing from one to two feet high, with an erect, branching stem, hoary leaves, and long spikes of flowers; the size and richness of color of these



GERMAN TEN-WEEKS STOCK.

flowers are greatly admired. The plant is a native of the south of Europe, and was first cultivated in 1731. The seed should be sown in a hot-bed or very early in the spring, in the open ground, and transplanted singly when very young, not later than immediately after they have produced their third pair of leaves, and as much earth should be kept about the roots as possible. It is convenient often to plant them in threes, in the shape of a triangle, so as to place a stake in the centre to tie them to, if necessary.

PHLOX DRUMMONDII—Drummond's Phlox.—This splendid Phlox was discovered in Texas, by DRUMMOND, a botanical collector sent out by the Glasgow Botanical Society, in 1835. A more splendid sight than a bed of these plants in full blossom, can scarcely be imagined; every flower, though of the deepest carmine, has its petals of a pale blush color on the under side, and every petal, though of the palest pink, has a dark carmine spot at the base. Thus the variety of colors displayed in a bed of these flowers almost exceeds description, and when they are seen under a bright sun and agitated by a gentle breeze, the effect is extraordinarily brilliant. Sow the seeds in a mass or broadcast, early in the spring.

Editor's Table.

WOOL GROWERS' ASSOCIATION OF WESTERN NEW YORK.—The following is the list of Premiums to be awarded at the Second Annual Fair of the Western N. Y. Wool Growers' Association, to be held at Penn Yan, Yates Co., on the 27th, 28th and 29th of May next:

SWEETSTAKES.

First Class.—Best Buck, \$60; second best Buck, \$40; third best, \$20.

Second Class.—Best five Ewes, \$50; second best five Ewes, \$30.

All fine-wooled sheep will be allowed to compete in the above classes.

SPANISH MERINO.

First Class.—Best Buck, three years old or upwards, \$20; second best Buck, \$15; third best Buck, \$10.

Best five Ewes with Lambs, \$20; second best, \$15; third best, \$10.

Second Class.—Best Buck, two years old, \$20; second best, \$15; third best, \$10.

Third Class.—Best five Ewes, two years old, \$20; second best, \$15; third best, \$10.

Fourth Class.—Best Buck, one year old, \$20; second best, \$15; third best, \$10.

Fifth Class.—Best five Ewes, one year old, \$20; second best, \$15; third best, \$10.

LONG AND MIDDLE WOOLED SHEEP.

First Class.—Best Buck, (sweetstakes,) \$50; best buck one year old, \$10; second best, \$7; third best, \$3.

Second Class.—Best Buck, three years old and upwards, \$20; second best, \$15; third best, \$10.

Best Buck, two years old, \$15; second best \$10; third best, \$10.

Third Class.—Best five Ewes, two years old and upwards, \$15; second best \$10; third best, \$7.

Best five Ewes, one year old, \$10; second best, \$7; third best, \$3.

No sheep will be allowed to compete in more than one of the foregoing classes.

SILESIAN AND SAXON.

First Class.—Best Buck, three years old and upwards, \$10; second best, \$7; third best, \$3.

Best Buck, two years old, \$10; second best, \$7; third best, \$3.

Second Class.—Best buck, one year old, \$10; second best, \$7; third best, \$3.

Best five Ewes, two years old, \$10; second best \$7; third best, \$3.

Best five Ewes, one year old, \$10; second best, \$7; third best, \$3.

FRENCH MERINOS.

First Class.—Best Buck, two years old and upwards, second best, \$7; third best, \$3.

Best five Ewes, two years old, and over, \$10; second best, \$7; third best, \$3.

Second Class.—Best Buck, one year old, \$10; second best, \$7; third best, \$3.

Best five Ewes, one year old, \$10; second best, \$7; third best, \$3.

"Competition for Premiums will be free to all, from any State of the Union, or the Canadas." Entrance fee one dollar.

On the third day of the Fair, a sale of sheep will take place on the grounds.

YELLOW STRIPED BUG.—A correspondent sends us the following method of keeping off the bug from melon vines: "Take black cotton wadding, which may be purchased at any store for two or three cents per sheet, split and cut it into square pieces, large enough to cover the hill; put a little soil about the edges to keep the wind from blowing it away. By this means the vines thrive well, and are free from the bug."

THE WEATHER.—At this date (March 31st) there is little prospect of genial spring weather. But we have the promise of "seed-time and harvest," and instead of talking despondingly of the prospect of an early spring, it will be better to conclude that the later it is, the shorter will be the time for performing its labors when it does come, and the more necessity for getting everything in readiness.

In this vicinity we are still of opinion that the peach crop is safe. But there are few sections equally fortunate. Throughout the West there can be no doubt that the crop is entirely destroyed.

In some sections it is said that the stock is in worse condition than last spring, although there is abundance of fodder, and the dry steady cold is much better—especially for sheep—than wet, unsettled weather. This is attributed, and with good reason, to the fact that hay, corn stalks, &c., are far less nutritious in a cool, moist season such as that of last year, than in a dry, hot one, like that of 1854. An immature plant is always less nutritious than one in which the juices are perfectly elaborated. Nevertheless, as far as our own observation extends, the stock will come out of winter in at least average condition.

DISEASE IN PIGS.—Mr. E. S. HAYWARD, of Brighton, N. Y., informs us that he has lost, within the last week or two, seventeen young pigs. They appeared healthy and exceedingly fat and thrifty till about three weeks old, when they were affected with the "heaves"—panting as though suffering from heat. The disease carries them off in a few days. Have any of our readers had any experience with this fatal complaint, and what is it, and what the remedy? The pigs were half Suffolk. The sows were fed with milk, and a little Indian corn, oat and oil-cake meal made into a mash.

AGRICULTURAL COLLEGE OF MARYLAND.—The bill to incorporate and endow an Agricultural College, appropriating \$6,000 annually from the State Treasury, has finally passed both branches of the Legislature of Maryland, and is now a law. This annual appropriation is, however, not available to the College, until subscriptions to its capital stock to the amount of 2,000 shares at \$25 per share be actually secured and made good. A committee has been appointed to superintend the building of the College.

CREOSOTE FOR WARTS.—Dr. RAINEY, of St. Thomas Hospital, London, has written an article to the *Lancet*, detailing the effects of creosote applied to warts. He applied it freely to an obstinate warty excrescence on the finger, then covered it with a piece of sticking plaster. This course he pursued every three days for two weeks, when the wart was found to have disappeared, leaving the part beneath it quite healthy.

WE would call the attention of our readers to the advertisement of Mr. DORMAN. We have not seen the machine at work, but from the model, we should judge it to be an excellent harvester. Send to Mr. D. for one of his pamphlets containing description, &c.

It would be well for our farmers if they could analyze their crops, and also the soils in which they are produced. *Western Agriculturist*.

Will the *Agriculturist* tell us why?

THE PEACH CROP IN MICHIGAN.—A. L. KEELER writes us that "the peach crop is entirely destroyed in Michigan," and that "all his young trees are killed."

THE *New England Farmer* says that common hard soap applied to the end of a recently pruned vine will effectually stop the bleeding.

CURE FOR GARGET.—As it is about the time that cows are beginning to drop their calves, I think it a good time for those who have cows that are troubled with the garget to commence the cure. I last year tried a remedy given in the *Genesee Farmer* for 1855, page 20, and found it a certain cure. Instead of giving it three times a day, in doses of twelve grains, I give it in one scruple doses, twice a day, in a mash of shorts mixed with cold water, because if mixed with warm water, the iodine being very volatile, is likely to be exhaled, leaving very little of the active or rather effective part of the medicine. J. D.—*Gates, N. Y.*

IMPORTED SEEDS.—The draft on our stock of imported seeds is constantly increasing. This is a rare opportunity for our readers to obtain an assortment of the best quality of the choicest varieties of vegetable and flower seeds.

Those applying will be served in the order of their applications, and should we not be able to supply the demands, the remittances will be refunded.

All orders should have the varieties carefully specified according to our published list; or if the selections are left to our judgment, they will be made with special reference to the peculiar localities for which they are intended.

BOUND VOLUMES.—The volumes of the *Genesee Farmer* from 1847 to the present time, half-bound in sheep, for sale at this office at 62½ cents per volume. In addition to the price of the volume, those who order them to be sent by mail should inclose twenty-five cents for each copy, to prepay postage.

B. P. JOHNSON, Esq., will accept our thanks for President CHEEVER's address, delivered before the N. Y. State Ag. Society at their Annual Meeting in February last. We may find room for a few extracts next month.

Notices of New Books, Periodicals, &c.

THE MECHANIC'S, MACHINIST'S AND ENGINEER'S PRACTICAL BOOK OF REFERENCE, AND ENGINEER'S FIELD BOOK. By CHARLES HASLETT, Civil Engineer. Edited by CHAS. W. HACKLEY, Prof. of Mathematics in Columbia College, N. Y.

A duodecimo volume of 520 pages, containing 176 engraved diagrams, neatly bound in morocco, gilt, in pocket-book form, with tucks; price \$2.50. This work contains a great amount of valuable matter in a small compass; here are tables, rules and recipes for all kinds of estimates, computations, constructions, mixtures, etc., for the Engineer, the Architect, the Ship-builder, the Mason, the House-builder, the Carpenter, the Joiner, the Bricklayer, the Plasterer, the Cabinet-maker, the Book-binder, the Painter, the Glazier, the Agriculturist, the Manufacturer, and the Artisan in iron, &c., &c. A really valuable work. Published by Stringer & Townsend. No. 122 Broadway, N. Y.

WANZER, McKIM & Co., Publishers, Buffalo, N. Y., issued on the 25th of March, a new work entitled

THE TANGTETOWN LETTERS, being the Reminiscences, Observations, and Opinions of TIMOTHY TRAP, Esq., including a Report of the Great Mammoth Reformation Convention. Edited by the Author of "Records of the Bubbleton Parish," etc.

It is published in one volume, 12mo. cloth, and is illustrated with six elegant designs, executed by some of the finest artists in the country.

TRANSACTIONS OF THE OHIO POMOLOGICAL SOCIETY.

This is a neat pamphlet of 64 pages, containing reports of the Pomological meetings held at Columbus, at the time of the State Fair in September 1855, and at Cleveland, January 1856, together with several interesting and valuable communications from some of the most prominent horticulturists of the State.

RECOLLECTIONS OF THE TABLE-TALK OF SAMUEL ROGERS; to which is added PORSONIANA. New York: D. Appleton & Co., 346 and 348 Broadway.

Here is a dish of dainty literary morsels, which will be highly prized by a numerous class of readers. SAMUEL ROGERS, lately deceased at an advanced age, himself a British poet of high reputation, was on terms of familiar intimacy with most of the literati of Great Britain, from the latter part of the last century to the time of his death. The volume before us, is a collection of his conversations, which are sparkling, entertaining and instructive, and will be highly enjoyed by all who peruse them.

PROCEEDINGS OF THE FRUIT GROWERS' SOCIETY OF WESTERN N. Y.

This is a pamphlet of some 140 pages, containing an account of the organization of the Society in February, 1855, the autumn meeting at Buffalo, and the annual meeting at Rochester in 1856. It abounds in practical information of interest and value to all engaged in horticultural pursuits. See a more extended review on another page. D. M. DEWEY, of Rochester, has the pamphlet for sale, and will send it postage paid to any address, on the receipt of 30 cents in post office stamps, or otherwise.

ERASTUS DARROW & BROTHER, Publishers in this city, have in preparation six new volumes from the popular author, T. S. ARTHUR. They will be of the 12mo. size, illustrated, of about 300 pages each; price 75 cents. The titles are popular, and we have no doubt the books will not disappoint us in this respect. They are:

Wedding Guest, a Friend to the Bride and Bridegroom.
Words of Cheer for the Toiling and the Sorrowing.
Our Homes; their Joys, and Cares, and Sorrows.
The Mother's Rule; or, the Right and the Wrong Way.
Friends and Neighbors; or, Two Ways of Living in the World.

The True Path, and How to Walk Therein.

Inquiries and Answers.

(C. W. COLLINS.) If you will give us your Postoffice, we will supply the missing number.

(C. W. THOMPSON, Niagara, C. W.) E. D. HALLOCK, of this city, has Osage Orange seed. Price \$1 per quart.

(WM. JENNINGS.) The *American Veterinary Journal* is published by S. N. THOMPSON, 97 Union street, Boston. Monthly, \$1 per annum.

(N. ARNOLD, Haddam Neck, Conn.) DWARF PEARS.—Bud from quince stocks in July, as near the ground as possible. We gave recipes for grafting wax in the March number, page 101. It is useless to graft the pear on to an old quince bush.

(T. H. WATT, Woodstock, C. W.) The culture of cele-riac, or turnip-rooted celery, is not the same as that of celery. It is cultivated like cabbage. When the plants are tolerably grown, draw up the earth on each side of the row, three or four inches high. This will render them white and tender; and in five or six weeks after earthing up, they will be fit for use.

(A SUBSCRIBER.) See the article on millet in this number. Your grape vine that "blossoms and never bears," probably needs manuring. If you have any dead animals, blood, &c., bury them where the roots of the vine can reach them; or dig in some rich manure for several feet around the vine, and water it with the soap suds from the washings every week, being careful to stir the soil occasionally to keep it from baking.

(C. H. CASE, Bosanquet, C. W.) Apply your leached ashes on the most sandy parts of your farm. They are frequently very beneficial for wheat, clover, &c. We can say "what are the prospects of the Chinese potato in this country." We would advise you to wait another year before expending much money in the purchase of tubers. We should think you would have no difficulty in raising all kinds of fruit in perfection. If you apprehend "early spring frosts," plant on a well drained slope facing the north, in order to retard the buds as much as possible in the spring.

(M. RABEL, Woodcock, Penn.) GUANO FOR SPRING WHEAT.—Sift out all the lumps of the guano that are larger than a white bean, and break them. Then sow the guano broadcast on the land, either before or after plowing, at the rate of from 150 to 200 lbs. per acre. If sown after the land is plowed—which on the whole is perhaps the best way—harrow it in, so as to thoroughly incorporate it with the soil. Although guano will injure or destroy the germinating principle of all seeds when brought in direct contact with them in sufficient quantity, yet we have never known any injury sustained by sowing wheat and guano broadcast on the same land, and harrowing them in together.

(N. C.) WESTERN AG. PAPERS.—We can heartily recommend you any or all of the following:

The *Prairie Farmer*, published weekly at Chicago, by J. S. WIGHT. Price \$2.

The *Ohio Farmer*, Cleveland, Ohio. THOMAS BROWN, editor and proprietor. Weekly. \$2.

The *Ohio Cultivator*, Columbus, Ohio. S. D. HARRIS, editor and proprietor. Semi-monthly. \$1.

The *Michigan Farmer*, Detroit. J. R. JOHNSTON, editor and proprietor. Monthly. \$1.

The *Valley Farmer*, published by N. J. COEMAN, St. Louis, Mo., and by H. P. BYRAM, Louisville, Ky. Monthly. Price \$1.

The *Northwestern Farmer*, Dubuque, Iowa. MILLER & BRAYTON, publishers. Monthly. \$1.

(JOHN ELLINWOOD, Waukegan, Ill.) The article you refer to on the culture of liquorice was probably from the pen of WM. R. PRINCE, of Flushing, N. Y. You can obtain the plants from him. We have never seen this plant cultivated in this country. In Spain and Italy it is extensively raised, and from its roots is manufactured the commercial extract, Spanish juice, or liquorice. It is also cultivated to a small extent in some parts of England, but it is more profitably grown on the continent, where labor is cheaper. It is a leguminous plant, with long perennial roots. The roots are dug the third year after planting. A ton of fresh root per acre is a good crop. Our rich, deep western soils, if well drained and deeply plowed before planting, would produce in all probability, large crops of liquorice. The plants are propagated by cuttings of the side-roots, which spring from the crown of the plants, and run horizontally just beneath the surface. Each set, having a bud or two, should be set two inches deep, and in rows, wide enough to admit the use of the horse-hoe, say three feet, and about eighteen inches apart in the rows. Like lucerne, the plants are much benefited by frequent hoeing during the summer. Gathering the crop is the most expensive operation attending the culture of liquorice. A trench must be dug regularly along each row, quite down to the extremity of the principal roots, which descend two feet or more. We do not know where the seed of the *Red Camomile* can be obtained.

(J. L. MANDEVILLE, Motts Corners, N. Y.) We do not know where the Wyandott corn can be obtained. It may be all that is claimed for it in the southern and south-western States, but we think it is not likely to prove valuable in this latitude.

(C. W. S.) POTATOES FOR HORSES AND COWS.—Potatoes are an excellent food for horses, especially in the spring of the year. They should be boiled, or what is better, steamed; and while hot, should be mashed up with corn meal and a little oil-cake meal—say six pounds of corn meal and one pound of oil-cake to each bushel of potatoes. Some prefer to mix them with shorts, but this in our opinion makes a somewhat too loosening diet for horses at hard work. Pea meal may be substituted for the oil-cake, if it is cheaper in your neighborhood.

For milch cows, nothing is better than potatoes. They are better steamed or boiled, but the cows will eat them raw; and we know intelligent farmers who think it will hardly pay to boil potatoes for milch cows.

It is difficult to say what is "the comparative value of potatoes and corn," there are so many questions to be taken into the consideration. We should prefer potatoes, for horses and milch cows, at 25 cents a bushel, to Indian corn at \$1 per bushel.

A TIN BEE HIVE.—Would not a tin bee hive be an effectual guard against the miller? I think the miller does not deposit its egg inside of the hive or about the honey-comb, but in the cracks on the sides or top of the hive. You may observe by taking a hive apart that is infected by the miller, that the grub has worked its way through the hive to the honey-comb. This fact I have noticed in several instances. In fact I have seen the deposits between the draw and the side of the hive, and have seen where they have cut or eaten their way into the hive. Has the tin hive ever been tried? I should like to hear from some others that are more experienced in raising bees than myself. The hive should be japanned or painted, or it would be too bright and smooth. A. DEITZ—*Ceres, McKean Co., Pa.*

TOO MUCH STALK FOR THE CORN.—I get too much stalk and cob for the corn. What manure shall I apply to get more corn in proportion to the stalk and cob. CORN—*Sterling Hill, Ct.*

The variety of corn, climate, distance between the rows, and the method of cultivation, have more to do with it than the kind of manure. It is perfect folly to talk about furnishing the soil with those elements found in the kernel, and not with those found in the stalk, in order to accomplish this object. Will some of our correspondents take up this matter.

GRUB FLY ON CATTLE.—I will ask one little question which perhaps may be answered through the pages of the *Farmer*; that is, Cannot there be something applied to the backs of calves and cattle that will prevent the sting of the grub fly? I am satisfied it is deleterious to their growth and thriving, in proportion as they are numerous. I notice that long and coarse haired cattle will have the most of them. C. W. TIFFANY—*Hopbottom, Susquehanna Co., Penn.*

GOOSEBERRY AND QUINCE SEED.—Having received some gooseberry seed from Scotland, of last year's growth, please to inform through the *Farmer*, the proper mode of propagating the same. If the quince tree can be raised from the seed, which would be the proper time? WM. BROWN—*Chesterfield, C. W.*

Soak the gooseberry seed for two or three days in tepid water, and then sow in a hot-bed, or warm sandy border. The common quince can be raised from the seed sown in the fall, or if the seeds are properly kept through the winter, in the spring.

DOG POWER—CORN PLANTER—SWEET MILLET.—In due course I received your little gem, the *RURAL ANNUAL*, and the current number of the *Farmer*. I am much pleased with the *Farmer* in its improved form, both for quantity and quality, and its extreme cheapness appears incredible.

I am in want of a motive power to saw wood for a stove, and that might be applied to churning, turning a grindstone, or pumping water; these require but small power. Would not the dog or sheep churn power do? If so, where could I get it, and at what price?

Is there any machine, *self-acting*, that will plant corn in check rows?

Can you inform me where I can get by mail a small portion of *Sweet or Sugar Millet*, and your opinion of its merits?—**WILLIAM BOURNE—Fuller's Point, Coles Co., Ill.**

The Dog Power you can probably get of **HENRY D. EMERY, 45 Franklin street, Chicago.** We believe there are double dog or sheep powers that can be used to saw wood. We shall be glad to hear from our experienced readers on this point.

There are many good machines for planting corn, but none that deposit the seed sufficiently accurate to allow the horse-hoe to be passed through both ways of the rows, especially if the ground is at all rough. Such a machine is greatly needed, but from the impossibility of accurately measuring distance with a rolling wheel of small diameter, on uneven ground, we fear it will be some time before we shall have one that will accomplish the object.

By Sweet or Sugar Millet, we suppose our correspondent means the "Indian Millet," (*Holcus soghum*.) It has recently been brought out as something new, when in reality it has been known for a very long time. It is coarser than the common millet, and needs a hotter climate to bring it to perfection. The "Chinese Sugar Cane" (*Holcus saccharatum*), is closely allied to Indian millet. Owing to the failure of the grape in France, it was supposed that this grass which contains considerable sugar, might be profitably grown for distilling purposes. It is to this fact it owes the attention it has received in this country. We do not want it for whisky manufacture. And it is yet to be shown that it is more nutritious than the common millet, or that more can be grown per acre. It may prove an acquisition in the southern and south-western States, but we do not anticipate any great benefit from its introduction into the northern States. **THORBURN & Co., Seedsmen, New York**, can furnish the seed.

PREPARING SEED CORN.—Will you please give us through the columns of the *Genesee Farmer*, a receipt for the preparation of corn so that crows and worms will not disturb it? **W. R.—Auburn Town Corners, Penn.**

Will our correspondents give us their experience.

ADVERTISEMENTS,

To secure insertion in the *FARMER*, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. **TERMS**—Two Dollars for every hundred words, each insertion, **PAID IN ADVANCE.**

NOTICE.

MESSRS. JOHN DONNELLAN & NEPHEWS, of the Rochester and Handford's Landing Nurseries, having made some alterations in their firm, and increased their Nursery Grounds, have also changed the above address and designation, and in future their business will be carried on under the title of **JOHN DONNELLAN & CO., Rochester and Lake Avenue Commercial Nurseries.**

The location is barely one mile north of the city limits, and four miles from Lake Ontario Steamboat Landing, affording convenient facilities for shipment of Trees, &c., either by Railroad or water.

All orders for Trees and Plants will be filled and delivered promptly to the cars of such forwarding companies as may be directed.

Catalogues furnished on application.

April, 1856.—2t.

JOHN DONNELLAN & CO.

FRUIT & ORNAMENTAL TREES, SHRUBS, ROSES, &c., FOR SALE BY JAMES VICK & CO.

THE Subscribers are prepared to receive and execute all orders for Fruit and Ornamental Trees, to be delivered the present Spring.

We are well aware of the impositions that have been practised heretofore by tree agents, but as we intend devoting our entire attention to the business of selecting, packing, and shipping Trees, &c., and not being connected with any nursery, we are determined to hold no other object in view but that of supplying our patrons in every instance with the best articles.

We will purchase Trees, &c., only from the most reliable nurseries, attending personally to the selections. If our customers leave the selection to us, we will furnish the varieties best suited to their respective localities. As we are well acquainted with all the nurseries in this State, and know exactly where to find the suitable stock, it is still further guaranteed to our customers that their wants will be supplied in the best manner.

Mr. VICK has been connected with the horticultural community for many years as the proprietor and publisher of the *Genesee Farmer* and *Horticulturist*, and for many years past, persons from all parts of the country have urged upon him the necessity of forming arrangements that would meet the wants of the public by attending to the selection of orders, seeing the articles packed and shipped, thus affording a guarantee that the requisite attention would be paid to all orders sent forward. In order to meet their views he has formed a copartnership with Mr. GEO. MARSHALL, who has been connected with the nursery business for the past five years, and he begs to assure the public every attention will be paid in every respect to all who may favor them with their orders.

As a still further assurance that we will execute to the letter every wish of our patrons, and our ability to meet our engagements, we beg to refer to the following gentlemen:

Hon. WASHINGTON HUNT, Ex-Governor of New York.

Hon. H. STILWELL, Ex-Mayor of Rochester.

A. KARNES, Esq., Banker.

J. C. CAMPBELL, U. S. Collector.

H. SARGANT, Dep.

LEE, MANN & CO., Prop. Rochester Daily American.

CURTIS & BUTTS, " " " Union

A. STRONG & CO., " " " Democrat.

D. D. T. MOORE, of Moore's Rural New-Yorker.

All letters addressed to us at Rochester, N. Y., will meet prompt attention.

Persons sending orders must enclose the cash, a draft, or satisfactory note for amount of order.

Catalogues will be supplied upon application.

JAMES VICK & CO.,

March 1.

Rochester, N. Y.

FOR SALE.

THE FINEST SPORTING PROPERTY IN CANADA.

THE place is known as "Ryerson's Island," and contains 191 acres per deed—is situated about one mile east of Long Point, in Lake Erie, and about eight or ten miles from Port Rowan and Normandale in Norfolk county.

The soil is very rich. Corn, cabbage, tomatoes, potatoes, and almost all vegetation is of the most luxuriant growth, and can be in market nearly three weeks before the same are produced on the main land. A small portion is under cultivation. It offers great advantages for raising Cows, Oxen, Sheep, and all kinds of Stock, as an extensive Grazing or Market Farm. Twenty to thirty or forty tons of excellent hay can be had just by cutting and curing. Wild Grapes are very abundant and large. Every spring and fall it abounds with WILD FOWL—Wild Ducks innumerable, of almost every variety—(one gentleman shot and bagged 86 in part of one day last year)—Geese, some Swans, Plovers in flocks, Woodcocks, Pigeons, etc., all summer. Turtles of different kinds and size are very plentiful. Deer, Coons, Muskrats, etc., are in great numbers on Long Point. (The Fishing advantages are still greater, either with hook and line, nets, or otherwise. The fish are caught in great quantities, and are very large and fine. The delicious Muscalunge, weighing from 20 to 40 pounds; the Sturgeon, from 75 to 100 pounds; the Cat and White fish, and Herring are very plentiful. The PLEASURE BOAT is a great luxury here, being just far enough from the main shore not to be annoyed. It can be made a superior place of PUBLIC RESORT, being known to large numbers of sporting gents, all along from New Orleans, Canada, New York, etc. It is very HEALTHY, and can be reached from different points along the lake by Steamboat, which leaves Buffalo in the evening, and arrives early next morning; there are also Railroad advantages approaching. Terms very reasonable. Apply to

Ap1.—2t.

**RICH. RICHES, Ryerson's Island,
Normandale P. O., Canada West.**

FRUIT AND ORNAMENTAL TREES, &c.

THE subscriber offers for sale a large and general assortment of Fruit and Ornamental Trees and Shrubs, comprising every item that is usually to be found in the most extensive hardy collections of Nursery Stock that can be grown without protection in this latitude.

Exact Inventories of the Stock, denoting the height of the Trees and the number of each sort offered for sale, with the prices, forwarded to all prepaid applications inclosing a one cent postage stamp.

April 1, 1856.

36 Front Street, Rochester, N. Y.

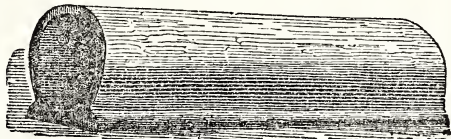
ALBANY TILE WORKS,

Corner of Patroon and Knox Streets, Albany, N. Y.

THE subscribers, being the most extensive manufacturers of Draining Tile in the United States, have on hand, in large or small quantities, for Land Draining, the following descriptions, warranted superior to any made in this country, hard burned, and over one foot in length. On orders for 10,000 or more, a small discount will be made.

**HORSE SHOE TILE.**

4 1/2-inch calibre, \$18 per 1000; 3 1/2-inch calibre, \$15 per 1000; 2 1/2-inch calibre, \$12 per 1000.

**SOLE TILE, OR PIPE.**

3-inch calibre, \$18 per 1000.
2-inch calibre, 12 per 1000.

* Also on hand, 8 inch Horse Shoe Tile for large drains, \$8 per 100; 5 1/2-inch, \$40 per 1000. Sole Tile, 4-inch calibre, for sink drains, \$40 per 1000; 6-inch calibre, Octagon Pipe, \$20 per 100.

Cornice Brick, of the pattern used in the City of Washington, also on hand.

Orders respectfully solicited. Cartage free.

C. & W. McCAMMON,

late BABCOCK & VAN VECHTEN,

April 1, 1856.—1t.

Albany, N. Y.

UNION AGRICULT'L WAREHOUSE AND SEED STORE.

No. 23 FULTON ST., (NEAR FULTON MARKET,) NEW YORK.

THE Undersigned, having succeeded to the business for the manufacture and sale of Agricultural Implements and Machinery, heretofore conducted by Messrs. RALPH & Co., at No. 23 Fulton street, intends to continue the same in all its branches, and is prepared to furnish goods of the best style and quality at low prices. Machinery, or any articles in the line, manufactured to order according to pattern at short notice.

My facilities for manufacturing enable me to offer to Dealers and Farmers the following leading articles at low figures:

Hand and Power Corn Shellers.

Fan Mills.

Plows, Harrows, Cultivators.

Revolving Hay Rakes.

Spring tooth Hay Rakes, (the best Rake in use.)

Cast iron Corn Mills, for Hand or Power.

Road Scrapers, Wheel-Barrows.

Field and Garden Rollers.

Corn and Cotton Planters.

Post or Ground Augers.

Hay, Straw and Stalk Cutters.

Wagons and Carts.

Vegetable or Root Cutters.

Sausage Cutters and Stuffers.

In connection with my farming operations, I have for some years past given much attention raising thorough bred Short Horn, North Devon and Ayrshire cattle, and other fine stock, and now offer the advantage of my knowledge and experience to persons desiring to purchase stock.

April 3t.

ALFRED M. TREADWELL,
23 Fulton St., New York.

MANN & SON'S REAPER AND MOWER COMBINED

THE Subscriber is the sole Agent for the sale of MANN & Son's celebrated Combined Reaper and Mower, in all the States east of the Ohio line, and the Canadas. He will send a pamphlet containing a description of the Machine, and certificates from some of the most respectable farmers in the West, that prove that this Machine will do more and better work than any other. It has taken the First Premium at several Trials in competition with the Atkin's, McCormick's "New York Reaper," Manny's, and many other popular Machines, and is unquestionably the best and most labor-saving Machine yet introduced to the Agricultural public.

It is manufactured by HASKELL, BARKER & ALDRIDGE, of Michigan City, Indiana, who warrant each machine to *waste less grain than any other Harvester in use.*

I have a model of the Machine which I shall be glad to show to any one wishing to examine into this matter. I have used the Machine in all kinds of grain and grass, and know it to work easier and better than all others.

April 2t

Penn Yan, Yates Co., N. Y.

A. FROST & CO.,

GENESEE VALLEY NURSERIES, ROCHESTER, N. Y.

THE Proprietors of this establishment have published their annual descriptive Catalogue (No. 3) of choice Dahlias, Verbenas, and other bedding-out plants, as well as Geraniums, Phloxes, select greenhouse plants, new Roses, &c., for 1856.

Their Stock, which is represented in this Catalogue, is very large, select, and in great variety, so that entire orders which may be entrusted to them will be furnished. Having added for this department, the past season, a great extent of glass, and by extensive importations from Europe, many novelties promising merit are introduced, which render it particularly attractive.

All plants sent out from this establishment are packed in the most superior manner, so that they may reach even distant destinations in perfect safety.

This Catalogue (No. 3) will be mailed to all applicants by enclosing a one cent postage stamp.

Besides the above, the following Catalogues will be sent on the receipt of a one cent postage stamp for each Catalogue wanted:

No. 1. Catalogue of Fruits.

No. 2. Catalogue of Ornamental Trees, Shrubs, Roses, &c.

No. 4. Wholesale Catalogue or Trade List, for Nurserymen and others, who wish trees in large quantities.

Rochester, April 1, 1856.—2t.

HIGHLAND NURSERIES, NEWBURGH, N. Y.

A. SAUL & CO., in calling the attention of the public to their establishment, deem a lengthened notice unnecessary. They would merely state, that the stock of their nurseries which they offer for sale the coming spring, is full in every department, and of the best quality, including all the recently introduced PEARS, and other fruits, both Dwarf and Standards. Also all the novelties in the Ornamental department, both Deciduous and Evergreen, including the new and rare Conifers, Weeping trees, Shrubs, &c., as well as a full stock of all the leading articles to be had in the trade.

For particulars in detail they refer to their general Catalogue, a new edition of which is ready, and will be forwarded to all post-paid applications, on enclosing a postage stamp to *pre-pay* the same.

A large quantity of Hedge plants, Osage Orange, Buckthorn, &c. Dealers and planters of trees on a large scale, dealt with on the most liberal terms.

Newburgh, March 1, 1856.—2t.

FRUIT AND ORNAMENTAL TREES.

THE subscriber invites the attention of those designing to plant, to the large stock of Fruit and Ornamental Trees, Shrubs, Roses, Vines, Hedge Plants, &c., which he offers for sale, now suitable for transplanting.

The assortment of FRUIT TREES is large, and consists of the most approved varieties of

APPLES, Standard and Dwarf,

PEARS, do. do.

CHERRIES, do. do.

PEACHES, PLUMS, APRICOTS, QUINCES, NECTARINES, and the smaller Fruits, together with a general variety of other nursery items.

Also, Trees of extra large size can be supplied of the following: Apples, Pears, Peaches, and Plums.

Trees securely packed for transportation.

CHARLES MOULSON,

April, 1856.—1t.

Union Nursery, Rochester, N. Y.

PRICES OF FERTILIZERS FOR SPRING, 1856.

PERUVIAN GUANO, No. 1, with Government brand and weight on each Bag,	per ton of 2,000 lbs.	\$54.00
Ichaboe Guano,	"	40.00
Improved Superphosphate of Lime,	"	45.00
Bone Dust, Ground,	per bbl.	\$2.25 to 2.50
" Turnings,	"	2.37 to 2.50
" Sawings,	"	3.00
" Mixed fine ground,	"	2.75 to 3.00
Plaster of Paris,	"	1.00 to 1.25
Poudrette,	"	1.50 to 1.75
Tea-few,	per ton of 2,000 lbs.	35.00

There is an inferior grade of Peruvian Guano with the Government brand upon the bags, which can be detected by the figure 2 under the weight mark.

A. LONGFETT,
mar—3t 34 Cliff street, corner of Fulton, New York.

UNION AGRICULT'L WAREHOUSE AND SEED STORE

No. 23 FULTON ST., (NEAR FULTON MARKET,) NEW YORK.

PLOWS, a large and choice selection of the best patterns now in use, comprising a variety of forty different patterns and sizes, adapted to the various soils.

Harrows, square, triangular and hinged.

Seed Drills, for sowing all kinds of garden or field seed in drills, to be used by hand or horse.

Rollers, field and garden sizes.

Garden Engines, Wheel-harrows, &c.

Together with an extensive assortment of Horticultural Implements, Field and Garden Seeds, for sale by

April 3t. A. M. TREADWELL, No. 23 Fulton St., N. Y.

SEEDS.

VEGETABLE AND FLOWER SEEDS.

I HAVE just imported from France, and now offer for sale the following list of Seeds. They embrace the very best and rarest sorts, and are recommended as quite superior.

VEGETABLES.

CAULIFLOWER—Early Paris, Large Lenormand.
CABBAGE—Superfine Early York, Small Early Savoy, Large late Dutch Drumhead, Winingstadt.
BROCOLI—Early White.
CELERY—White Solid.
CELERYAC, or Turnip-rooted Celery.
CARROT—Early Short-horn.
RADISH—Rose Winter, Early Oval, Long Scarlet. †
EGG PLANT—Long Purple, White.
KOHLE—KABI—White above ground.
ONION—Giant or Round Madeira, White Lisbon, Blood Red.
CUCUMBER—Early White.
SPINAGE—Very Large English.
MUSKMELON—Nutmeg.
WATERMELON—Spanish.
PEPPER—Common Red.

FLOWERS.

Balsam, double mixed.
Lathyrus odoratus.
Aster Chinesis pyramidalis.
Portulacca, mixed varieties.
Phlox Drummondii.
Petunia, hybrid varieties.
Nemophila insignis.
" maculata.
Bartonia aurea.
Convolvulus major.
" minor.
Mirabilis jalapa.
Calandrinia elegans.
Campanula var.
Dianthus Chinesis flore pleno.
Centaurea var.
Ipomoea quamoclit.
Lupinus, mixed varieties.
Clintonia pulchella.
Coreopsis varieties.
Dracopcephalum Moldavicum.
Enothera purpurea.
Escholtzia Californica.
Gentiana amarella.
Cheiranthus annuus.
Godetia rubicunda.
Xeranthemum.
Kaulfussia Ammelloides.
Lamarckia aurea.
Lavater trimestris rosea.
Leptosiphon densiflorus.
" Androsacea.
Papaver, mixed varieties.
Delphinium, "
Scabiosa atropurpurea.
Schizanthus pinnatus.
" Grahami.
" retusus.
" retusus albus.
Mimosa pudicans.
Tagetes patula.
" variegata.
Candytuft, many varieties.
Zinnia elegans.
Minulus Cardinalis.
Amaranthus, red globe.
" orange.
" white.
Aquilegia Canadensis.
" hortensis.
Digitalis purpurea.
Antirrhinum, mixed varieties.
Viola tricolor grandiflora.
Penstemon, several varieties.
Dianthus caryophyllus.
Cheiranthus incanunus.

And many other sorts which we have not room to mention in detail.

These seeds are neatly put up and marked, and are offered at the rate of sixteen sorts for one dollar, and will be forwarded by mail, postage paid, to any part of the United States.

Orders should be addressed to JAMES VICK,
Proprietor of the Genesee Farmer.

RARE AND VALUABLE SEEDS.

THE Subscriber will forward to any readable address, packages of the following seeds by mail, free of postage, or postage paid, on the receipt of price, or the entire list in one envelope, for \$1 in gold, a current bank bill, or postage stamps.

	Cents.
Nepaul Barley, beardless and skinless, per package.....	25
Biennial Rye, two crops from one seedling.....	12½
Pure Poland Oats, forty pounds to the bushel.....	12½
Orange Watermelon, rind peels off like the orange.....	25
Ice Cream or White Sugar Melon, of Alabama.....	25
Chinese Hoo-sung, substitute for Asparagus.....	25
Five Foot Cucumber, 5 feet long.....	12½
Negley's Seedling Cucumber, new and fine.....	12½
Cylindrical Pumpkin, 2 feet long.....	12½
Glass Melon, very small, for preserves.....	12½

N. B.—A Descriptive Catalogue, embracing many other varieties, will be sent on application by mail.

SEND FOR THE CATALOGUE.

Address, (Free.) I. W. BRIGGS, P. M.
County Line Farm, West Macedon, Wayne Co., N. Y.
Feb.—4t.

TOMPKINS' COUNTY KING.

SCIONS or Trees can be furnished of the above variety, cultivated from bearing trees. Also, other new varieties, such as Wagener, Prince's, &c. Also, scions of all the leading varieties. Also, a large quantity of the Viminalis Willow, for the basket trade. Cuttings furnished of the above variety for \$2.50 per 1,000.

W. T. & E. SMITH,
Feb.—3t. Geneva Nursery, N. Y.

BOOKS FOR THE FARMERS!

FURNISHED BY THE PROPRIETOR OF GENESEE FARMER.

The Cow, Dairy Husbandry, and Cattle Breeding. Price 25 cts.
Every Lady her own Flower Gardener. Price 25 cents.
The American Kitchen Gardener. Price 25 cents.
The American Rose Culturer. Price 25 cents.
Price Essay on Manures. By S. L. Dana. Price 25 cents.
Skinner's Elements of Agriculture. Price 25 cents.
The Pests of the Farm, with directions for extirpation. Price 25 cents.
Horses—their Varieties, Breeding, Management, &c. Price 25 cents.
The Hive and Honey Bee—their Diseases and Remedies. Price 25 cents.
The Hog—its Diseases and Management. Price 25 cents.
The American Bird Fancier—Breeding, Raising, &c. 25 cts.
Domestic Fowls and Ornamental Poultry. Price 25 cents.
Chemistry made Easy for the Use of Farmers. Price 25 cts.
The American Poultry Yard. The cheapest and best book published. Price \$1.
The American Field Book of Manures. Embracing all the Fertilizers known, with directions for use. By Browne. \$1.25.
Buist's Kitchen Gardener. Price 75 cents.
Stockhart's Chemical Field Lectures. Price \$1.
Wilson on the Cultivation of Flax. Price 25 cents.
The Farmer's Cyclopaedia. By Blake. Price \$1.25.
Allen's Rural Architecture. Price \$1.25.
Phelps's Bee Keeper's Chart. Illustrated. Price 25 cents.
Johnston's Lectures on Practical Agriculture. Paper, price 25 cents.
Johnston's Agricultural Chemistry. Price \$1.25.
Johnston's Elements of Agricultural Chemistry and Geology. Price \$1.
Randall's Sheep Husbandry. Price \$1.25.
Minor's American Bee-Keeper's Manual. Price \$1.
Dadd's American Cattle Doctor. Complete. Price \$1.
Fossenden's Complete Farmer and Gardener. 1 vol. Price \$1.25.
Allen's Treatise on the Culture of the Grape. Price \$1.
Youatt on the Breeds and Management of Sheep. Price 75 cts.
Youatt on the Hog. Complete. Price 60 cents.
Youatt and Martin on Cattle. By Stevens. Price \$1.25.
The Shepherd's own Book. Edited by Youatt, Skinner and Randall. Price \$2.
Stephens's Book of the Farm; or Farmer's Guide. Edited by Skinner. Price \$4.
Allen's American Farm Book. Price \$1.
The American Florist's Guide. Price 75 cents.
The Cottage and Farm Bee-Keeper. Price 50 cents.
Hoare on the Culture of the Grape. Price 50 cents.
Country Dwellings; or the American Architect. Price \$6.
Lindley's Guide to the Orchard. Price \$1.25.
Gunn's Domestic Medicine. A book for every married man and woman. Price \$3.
Nash's Progressive Farmer. A book for every boy in the country. Price 50 cents.
Allen's Diseases of Domestic Animals. Price 75 cents.
Saxton's Rural Hand-books. 2 vols. Price \$2.50.
Beattie's Southern Agriculture. Price \$1.
Smith's Landscape Gardening. Containing hints on arranging Parks, Pleasure Grounds, &c. Edited by Lewis F. Allen. Price \$1.25.
The Farmer's Land Measurer; or Pocket Companion. Price 50 cents.
Buist's American Flower Garden Directory. Price \$1.25.
The American Fruit Grower's Guide in Orchard and Garden. Being the most complete book on the subject ever published. Quinby's Mysteries of Bee-Keeping explained. Price \$1.
The Fruit Garden. P. Barry. Price \$1.
American Fruit Culturist. J. J. Thomas. Price \$1.
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1856.

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JAMES VICK,

November, 1855.

Rochester, New York.

STEREOTYPED BY J. W. BROWN, ROCHESTER, N. Y.

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CULTIVATION OF INDIAN CORN.

INDIAN CORN is the most important crop raised on this continent; yet on sitting down to write about its cultivation, we are painfully reminded of our lamentable ignorance of its chemical requirements. We know, thanks to European investigations, something of the requirements of wheat, barley, beans, peas, turnips, &c., but no one knows anything respecting the special demands of Indian corn. To raise a crop of wheat, from 15 to 35 bushels per acre, we know the exact quantity of certain constituents of manure that will be required; but who can say the same of Indian corn? Who can tell us, if a soil without manure yields 30 bushels of shelled corn per acre, how much ammonia, phosphoric acid, potash, etc., we must supply in manure, to produce 60 bushels per acre? Every one must admit that such knowledge is desirable, yet we are not aware of a single experiment that has ever been made to ascertain the point.

By reference to another page it will be seen that the New York State Agricultural Society has taken up this matter, and offered premiums for experiments on Indian corn, which, if judiciously carried out, cannot fail to throw some light on this interesting and important subject.

Indian corn is supposed to be indigenous to the New World; at all events it flourishes better here than in Europe. It grows on the poorest sands, on the most tenacious clays, on granite rocks, and rich alluvial bottoms; in every clime, and on all soils in this vast continent, Indian corn springs up, as it were, spontaneously, without the care and attention of the planter. The ease with which it is produced, is probably one of the principal reasons why we have neglected to study its peculiar requirements.

Experience, that great teacher in all the practical arts, has taught us all we know of the cultivation of Indian corn. It would appear to teach that corn does not need so compact and calcareous a soil as the wheat plant demands. It delights in a loose, friable, warm, porous, deep soil, abounding in organic matter. It does well on all good wheat soils; yet it often does better on soils which are too light and mucky to produce good wheat. It is a gross feeder; we can easily make land too rich for wheat, but we have never yet seen any too rich for the production of Indian corn. Like all spring crops, corn requires an active soil. The atmosphere should have free access, and decomposition and disintegration should go on with great rapidity. Hence, fine tilth is essential. The particles of the soil should be rendered as fine as possible

by good plowing, dragging, rolling, cultivating, etc.; and after the plants are up, the hoe and cultivator cannot be used too much for the benefit of the corn crop.

Many of our best Western New York farmers are in the habit of plowing under a clover sod immediately before planting. By this time the clover has got a good growth, and the soil is in first-rate working condition. The grubs feast on this recently buried matter, and do not attack the corn until it is well started and growing so rapidly as to receive little or no injury.

Plant early—the earlier the better, if the weather is warm and the soil in good order. More corn was injured last year from late ripening than all other causes combined. The principal means of hastening the maturity of corn is to be sought in thorough underdraining. But we are well aware that the expenditure of \$30 per acre in underdraining is, with three-fourths of our readers, entirely out of the question. The next means to be resorted to, is to plant early varieties, and to avoid planting too thick. We saw many crops of corn injured last season from too thick planting. It will be said that last year was an exceptionable season. True, but we are persuaded that corn very generally suffers from this cause. We would rather plant in hills four feet apart, than three feet, which is the common practice in the Eastern States. Perhaps in Western New York three and a half feet, and three to four plants in a hill, is the best distance in ordinary seasons.

Careless planting must be guarded against. Planting "bees" are an abomination. Some of the planters bury the seed six inches deep, while others hardly cover it at all. The consequence is the corn comes up—that which comes up at all—very unevenly. Some hills are almost ready for the first hoeing before others are out of the ground, and the field of corn not only looks bad, but turns out bad at husking time. The hills should be made as broad and flat at the top as possible, and the seed be covered not more than two inches deep. It is better to have too many seeds in the hill than too few, for if too thick the plants *can* be thinned out, but if too thin, none can be added.

It is always in the end the most economical to mark out the lot both ways before planting, so as to insure straight rows in both directions. The cornfield not only looks better to the passer by, but you can horse-hoe both ways, and much closer without risk of cutting up the hills.

If plaster can be obtained for less than four dollars per ton, it will on most soils, pay to use it on corn.

The best way to apply it is to scatter a small table spoonful on each hill, shortly after the plants are through the soil. The beneficial effect is sometimes astonishing. Unleached ashes are not unfrequently mixed with the plaster—two-thirds ashes and one-third plaster—and scattered on the hill with good effect. It appears to be the general opinion that ashes can be more profitably used on Indian corn than on any other crop. How far the opinion is well founded, experiments alone can decide.

THE CULTIVATION OF ROOT CROPS.

It is a well established fact that more nutritious matter can be obtained from an acre of land in root crops, than in any other. Thus an acre of Mangel Wurzel, of twenty tons bulbs and eight tons leaves, would yield in bulbs, 5,000 pounds, and in leaves 2,000 pounds of dry matter—while forty bushels of wheat contain only 192 pounds, and the straw 1,600 pounds of dry matter. A crop of timothy of two tons of hay would yield not more than 3,500 pounds of dry matter, while an equal weight of clover hay contains only 3,200 pounds.

While, then, roots as a class contain some ninety per cent. of water, they nevertheless yield more dry substance than any other agricultural crop. Then, again, there is less effete matter in the dry substance of roots than in most other plants. Clover, timothy, straw, corn stalks, bran, and almost everything else commonly used for food, contains a very large proportion of *woody fibre* that is no more nutritious than an equal weight of sawdust. Common meadow hay and dry potatoes contain nearly an equal weight of nitrogenous compounds—say nine per cent of albumen, the flesh-forming principle. In the potato, however, the other 91 lbs. is nearly all starch, while in the hay it is nearly all woody fibre. We can obtain, then, not only a greater quantity of dry substance, but also a much greater amount of truly nutritious matter in roots than from any other crop.

Nor is this all. The impoverishing effects on the soil should also be taken into consideration. In this respect practical experience and scientific experiment alike decide in favor of turnips, ruta bagas, mangels, &c. (We fear potatoes are an exception; there have been no experiments made, that we are aware of, that settle this point, but common experience indicates that the potato is rather an exhausting crop.) In our articles on "LAWES and LIEBIG," we have shown that where a turnip is abundantly supplied with available inorganic matter, it is comparatively independent of organic matter in the soil, obtaining carbonic acid and ammonia from the atmosphere, sufficient for an average crop.

Root crops, therefore, not only afford a large amount of truly nutritive matter, but this matter is principally obtained from the atmosphere. Hence, the cultivation of roots is one grand means of increasing the amount of organic matter on a farm; and it is of organic matter, especially of ammonia, that most of our soils are deficient.

All root crops delight in a rather light soil, deeply and thoroughly pulverized, and enriched with well rotted farm-yard dung, or other quickly acting fertilizers, such as Peruvian guano, or superphosphate of lime.

CARROTS.—The value of carrots as an auxiliary food for horses and milch cows, is admitted to be very

great. It is admirably adapted to our climate, and though considerable labor is needed to weed them, &c., yet on the whole, we know of no crop in this vicinity which pays better. Our esteemed correspondent E. S. HAYWARD, Esq., is eminently successful in growing carrots. In the *Genesee Farmer* for April, 1853, will be found an interesting communication from him on this subject. He prefers a yellow chestnut loam, well manured with say 20 to 40 loads of rotten yard manure per acre, but they will grow on any deep rich soil, and produce well. The soil should be thoroughly pulverized with the cultivator and harrow on the top, before plowing, after the manure is spread. Then plow deep and follow with rakes, and rake the top of the furrow and the manure, if there is any left in sight, to the bottom of the furrow, and continue in this way till the piece is prepared, which leaves the ground level and clean on the surface. Four hands will follow and rake as fast as a team will plow. The ground should be sown while moist, soon after it is fitted, in rows 12 to 14 inches apart, and half an inch deep. The soil should be pressed on the seed by treading or rolling, to ensure its vegetation. If sown by hand, the usual quantity of seed is four pounds per acre; if with a machine, two pounds is sufficient. The seed should be soaked in warm water 48 hours or more before sowing, then mix with plaster till the seed will separate. Sow as early in May as the season will allow. The ground may be marked out with a marker made for the purpose, and the seed covered with a rake. If the weather is favorable, they will be up, and ready for the first hoeing in about three weeks. The hoe should then be passed lightly through the rows, to kill the weeds and help the growth of the carrots. In ten days, hoe again, weed and thin, leaving one plant in a place; in two weeks hoe deep, weed and thin, leaving the plants four or five inches apart in the rows, and the work will be completed for the season. If weeds grow after the last hoeing, weed them out, for weeds and carrots cannot grow on the same ground at a good advantage.

MANGEL WURZEL.—This is another root well adapted to our climate. It is not injured by insects or worms, and requires no hand weeding. The tops as well as the bulbs are excellent food for stock, and more food can be raised from an acre in mangel wurzel, than in any other crop we have ever cultivated. They are gross feeders; it is hardly possible to make the soil too rich for them. They should be planted in rows 30 inches apart, and from 12 to 15 inches in the rows. The seed can be dropped and covered with a hoe, just as in planting Indian corn. It is advisable to drop four or five seeds in a hill, so as to secure one good plant. A little sulphate of lime dropped with the seed, will be beneficial in giving the plants a start; but superphosphate of lime, say a quarter to half an ounce in a hill, will be very much better. When placed in close proximity with the seed, it has a remarkable effect in stimulating the growth of turnips, ruta бага, mangel wurzel, &c., and if a good article can be obtained at a reasonable price, it will pay well to use it for these crops. Mangel wurzel should be sown from the middle to the end of May.

RUTA BAGAS.—Swedes, or ruta bagas, are much more extensively cultivated in England than mangel wurzel, but they are not so well adapted to our climate as mangels. There are those, however, who

assert that ruta bagas can be raised as well here as in Great Britain, and we would be the last to discourage the idea, for we believe that the extensive cultivation of this root would be attended with many advantages; yet we believe the climate of the British Isles is better adapted to the growth of this root, than the dry, hot summers of this country. Ruta bagas can be sown in June, in the way recommended for mangels, or they may be sown in drills, like carrots, and thinned out with the hoe 12 or 14 inches apart. Be careful not to cover the seed too deeply. By using superphosphate you may be sure of a crop.

As it will be in season, will not some of our correspondents give us their experience in the cultivation of ruta bagas and turnips for the June number.

EXPERIMENTS ON INDIAN CORN.

WE are indebted to the Secretary, B. P. JOHNSON, Esq., for the following extracts from the Premium List of the New York State Agricultural Society for 1856. It will be seen that liberal premiums are offered for experiments on Indian corn. Strange as it may appear, the first judicious experiment on this great American cereal is yet to be made. We are totally ignorant of its peculiar manurial requirements, and shall remain so till some such experiments as those proposed by the New York State Ag. Society shall be accurately carried out. The Society has done itself honor in taking the initiative in this matter, and we anticipate much good from its efforts in this particular.

We intend competing for the first premium, and have induced Mr. DE BURG, of Brooklyn, to manufacture for us a small quantity of superphosphate, according to the receipt given below. If any of our friends wish a few bags of it, they can probably obtain all they will need to make the following experiments, by writing us on the subject immediately.

FERTILIZERS FOR INDIAN CORN.

The Executive Committee deeming it of great importance to ascertain the manure best adapted to Indian corn, one of the most important crops in this country, propose to award premiums for the best conducted and most satisfactory experiments with the manures hereinafter named.

It is desired that the field upon which the experiment is made should have been under cultivation for a considerable time, and if it has not been manured, and has been impoverished by continued cultivation of cereal crops, it will be the more acceptable. It is very important to ascertain the amount of phosphoric acid, sulphuric acid, potash, soda, lime, &c. required in the soil for the proper growth of Indian corn.

The mechanical condition of the field must be carefully attended to—and all parts of the field to be as much alike as possible. *One-fourth* of an acre for each plot, and *two* of these to be without manure of any kind. It is believed that this is as small a quantity of land as will secure reliable results, and it is of the utmost importance that the field experiments should be satisfactory.

PLATE OR MONEY PREMIUM, \$75.

No. I. The following preparations to be tried—each of the numbers representing one-fourth of an acre:

1. Without manure.
2. 4 tons well decomposed barn yard manure.
3. 4 tons green manure from barn yard.
4. 100 lbs. sulphate of lime.
5. 100 lbs. sulphate of ammonia.

6. 100 lbs. superphosphate of lime.
7. 75 lbs. pearlash.
8. 50 lbs. soda ash.
9. 25 lbs. sulphate of magnesia.
10. 50 lbs. sulphate of lime.
11. 75 lbs. of pearlash, 50 lbs. soda ash, 25 lbs. sulphate of lime, and 25 lbs. sulphate of magnesia.
12. As No. 11, with 100 lbs. sulphate of ammonia.
13. As No. 11, with 100 lbs. superphosphate of lime.
14. As No. 11, with 100 lbs. sulphate of ammonia, and 100 lbs. superphosphate of lime.
15. As No. 11, with 50 lbs. sulphate of ammonia.
16. 50 lbs. sulphate of ammonia.
17. 50 lbs. superphosphate of lime.
18. 4 tons barn yard manure, 50 lbs. each of sulphate of ammonia, superphosphate of lime, pearlash, soda ash, sulphate of magnesia, and sulphate of lime.
19. Without manure.

If potash, soda ash, and magnesia can not be readily obtained, unleached hardwood ashes may be substituted for them.

The *superphosphate of lime* should be made from calcined bones, and should be placed in direct contact with the seed. The sulphate of ammonia should be applied in the hill, with a little soil intervening between it and the seed. The pearlash or soda ash must not be mixed with the superphosphate or sulphate of ammonia before sowing. The other substances can be applied as convenience or custom dictates.

Superphosphate of lime from calcined bones, ground quite fine before admixture with acid, may be made as follows: Grind the calcined bones very fine; then to 100 lbs. of bone dust add 75 lbs. water, and mix thoroughly; then add 100 lbs. "brown or chamber" sulphuric acid, and mix completely, and repeat process until the quantity required is made. (Such a superphosphate can be sown with the smallest seeds without fear of injuring the germinating principle.)

PREMIUM, PLATE OR MONEY, \$50.

No. II. (*Indian Corn*.)—Each plat to consist of one quarter of an acre.

1. Without manure.
2. Peruvian guano, 100 lbs.
3. Mexican guano, 100 lbs.
4. Commercial superphosphate of lime, 100 lbs.
5. Poudrette, one barrel.
6. Tafeu, 100 lbs.
7. Gypsum, 100 lbs.
8. Unleached ashes, 100 lbs.
9. 4 tons barn yard manure.
10. 100 lbs. Peruvian guano, 100 lbs. superphosphate of lime, 100 lbs. unleached ashes, 50 lbs. gypsum.
11. Without manure.

In the application of Guano, it should be sown broadcast and plowed or harrowed in. If applied to corn in the hill, it will certainly injure the seed.

The ashes and gypsum are to be mixed together and sown broadcast before planting, or on top of the hill when the corn is a few inches high. The superphosphate and guano to be mixed together and applied in the hill, with sufficient soil intervening to prevent injury to the seed; or it may be sown broadcast, and plowed or harrowed in.

PREMIUMS FOR THE BEST CROP OF INDIAN CORN AND CARROTS.

The following Premiums were offered by the Hon. HORACE GREELEY, of New York, to Boys under 18 years of age:

1st. A premium of \$50, to the boy, under 18 years of age, in the State, who shall grow, within the State, the best acre of corn, in 1856, (the ground to be in one

contiguous piece,) the ground to be prepared, crop cultivated and secured by the applicant himself, with a full statement, as required by the Regulations of the Society.

2d. A premium of \$50 to the boy, under 18 years of age, within the State, who shall grow, within the State, the *best acre of Carrots*, in 1856, (the ground to be in one contiguous piece,) the ground to be prepared, crop cultivated and secured by the applicant himself, with a full statement, as required by the regulations annexed.

DIRECTIONS FOR INDIAN CORN.

1. The condition of the soil at the commencement of the culture, and the previous crop, if any, and the quantity and kind of manure used, if known, to be given.

2. The manner of plowing, dragging or furrowing, or marking the land for planting, the distance the hills or drills are designed to be left apart; the time of planting, and the time the corn appeared above the ground; the number of kernels dropped in hills or drills, as near as can be ascertained, and the number of stalks designed to be left in each hill or drill.

3. The variety of corn planted, and the quantity of seed per acre; the quantity and quality of manure put upon the crop, and the manner of its application; and the number of times the corn was hoed, or other method of cultivation.

4. The time of cutting the stalks, or of cutting up the corn; the number of loads of stalks, and estimated value for fodder.

5. The corn from the acre to be shelled, cleaned and measured in a sealed half bushel, between the 20th of December and the 15th of January, and the number of bushels to be stated.

6. The ground to be in one contiguous piece, to be measured by a surveyor, with chain and compass, previous to planting the corn, who must make affidavit of the correctness of his survey; and one or more persons, in addition to the applicant, to certify as to the gathering, cleaning, and measuring the corn.

7. A full and particular statement of the expenses, including the number of days' work of team and hands, and the value of the same.

The application, with the proofs, must be forwarded to the Secretary, at the Agricultural Rooms, Albany, by the 1st of February, 1857.

DIRECTIONS FOR CARROTS.

1. The kind and condition of the soil; statement of the previous crop, if any, and how manured.

2. The quantity of manure on the crop, the manner of its application, the quantity and kind of seed used.

3. The time and manner of sowing and harvesting the crop; and the actual yield by weight, 60 lbs. of clean roots, after the tops are taken off, estimated as a bushel.

4. A full and particular statement of the expenses, including the number of days' work of team and hands, and the value of the same.

5. A sample of the carrots to be forwarded to the Agricultural Rooms, Albany, with the statement.

6. The ground to form one contiguous piece, to be measured by a surveyor, with chain and compass, previous to planting the carrots, who must make affidavit of the correctness of his survey; and one or more persons, in addition to the applicant, to certify as to the gathering and measuring of the carrots.

The application, with the proofs, must be forwarded to B. P. JOHNSON, Secretary, at the Agricultural Rooms, Albany, by the 1st of February, 1857.

All inquiries in relation to these premiums, should be addressed to B. P. JOHNSON, Secretary, Agricultural Rooms, Albany.

MANAGEMENT OF FARMS.

For the best cultivated farm, of not less than fifty acres, mainly devoted to grain growing, exclusive of wood land and waste land, regard being had to the quantity and quality of produce, the manner and expense of cultivation, and the actual products: *Silver Plate*, valued at \$50. Second best, \$30.

For the best cultivated farm, of not less than fifty acres, mainly devoted to grazing and dairying, exclusive of wood and waste land, regard being had to the quantity and quality of produce, the manner and expense of cultivation, the management and feeding of stock, and of conducting the dairy, and the actual products, *Silver Plate*, valued at \$50. Second best, \$30.

Competitors for the premiums, on farms are desired to give notice to the Secretary, on or before the 1st of July, of their intention to compete, and some member or members of the Executive Committee will be assigned to visit and examine the Farms, and report on the same.

CHEAP COMPOST FOR CORN.—Having received the credit for two years past of having as good pieces of corn as any in our neighborhood, and attributing our success mainly to the use of a single handful of cheap compost dropped in each hill before planting the corn, we give you a statement as to how we form it.

Supposing a load to contain twenty-five bushels, we take two loads of muck manure from our hog-yard, one load of wood ashes, and three bushels of plaster of Paris. Work the parts thoroughly together with a hoe or shovel. Our corn ground having received a coating of manure before being plowed, the harrow follows the plow lengthwise of the furrows, until the surface is well pulverized. We mark one way for the hills with a shallow furrow of the plow, and then draw a chain the other way, which shows the place for each hill. The compost gives the corn a good start, and the manure helps it out. We have, also, for the two years past, soaked our seed corn in a strong solution of tobacco water, and have not been troubled much with worms. Let it remain in the solution from twelve to twenty-four hours. WM. E. COWLES, Canton, Conn., in *Country Gent.*

SHADE AS A FERTILIZER.—One of the arguments in favor of the notion that shade possesses peculiar powers of enriching a soil, has been that the northern sides of hills are more fertile than the south sides. The *Louisville Journal*, some time since, had an excellent article on this subject, and explains the fact, so far as Kentucky is concerned at least, in this wise: "The northern slopes remain frozen much more than the southern, which protects the former from being washed, while the latter, from exposure to the sun, are softened almost every day in winter, and the soil is carried away by every rain."

SALT CAUSES WHEAT TO RIPEN EARLIER.—THEODORE PERRY says, in the *Prairie Farmer*, that he sowed one and a half bushels of salt per acre upon one-half of a ten acre field, just after seeding it with spring wheat, and the result was that the salted portion was ready for the sickle five days earlier than the unsalted portion, and not a particle of rust, scab, or must could be found, and the increase of crop he estimated at five bushels per acre. Have any of our readers observed a similar effect from the application of salt?

DRAINING PRAIRIE LAND.

DRAINING consists in carrying off from land all superfluous water, which otherwise would remain on or in, to the injury of the soil or crops. The prairie land of the West generally needs its share of draining, with other lands. In some places the land is very wet, owing to its low situation, and during the wet portions of the year, the water stands in abundance upon this land, and even for days after a hard shower, in the driest part of the year.

Covered, or blind ditches are seldom used upon prairie land, as they could not be made large enough conveniently, to carry off the usual flow of water. Such irriguous lands are generally best surface-drained by a convenient open ditch, either thrown out by the plow, or by the spade and shovel, to a depth sufficient to carry off all surplus water.

It is well known that water falling upon prairie soil is rapidly absorbed, and many farmers come to the conclusion that, as long as the absorption of the land is sufficient to imbibe all surplus water in a few days, ditching is of very little value. Such men would scarcely read an article on irrigation or drainage, as it is considered by them as useless stuff, and they are bitterly opposed to "book farming, any how." Prairie land, generally speaking, is loose or porous, and easily worked, and this may account for the rapid reception of water into the soil. But admitting that the surplus water is received by the soil in a week or two, or even in a few days or hours; what is the effect upon the soil? It is *injurious*. The land will become sour—the air is excluded, and consequently that liveliness which the soil formerly had, departs; more or less owing to the length of time the water remains upon the same, and the land becomes what some persons call "deadened" or "lifeless." The growth of the plants is retarded—the health of that plant which is to be used for man or beast, is materially injured, and the health of the consumer is injured accordingly. Thus by one neglect, the health, strength, vigor, and even life of plants may be extinguished. *All stagnant water, either above or under the surface*, where the plants will feel the effect of it, will certainly injure them, and all useful plants desire water that is pure and that will facilitate their healthy growth.

But many of the prairie farmers suggest that they "have not the means or time to properly drain their farms," asserting that they produce good grass and *tolerable* good summer crops, even where the water stands on the land from three to five weeks in the spring and fall, and occasionally a day or two through the summer. This theory, if it could be established, (but I am confident every reasoning man will say it cannot), would show that water could be administered as a food for plants, especially grass, different from the ways of nature, and also different from botanical experiments. But there is no use of speculating upon this, for who ever saw *dry land plants*, even common grass, thriving under a luxuriant "top dressing" of stagnant water, of any depth from one inch upward, such water to remain upon the land for a length of time? It has been shown that water furnishes a large supply of the natural food of plants, but not in the manner spoken of above.

The man who holds to "top dressing" with stagnant water, and neglects to drain his farm, will be continually growling about wet weather, and of wet feet, cramps, rheumatism, ague, and other diseases

prevalent upon such lands. Where he has had ditches heretofore, they are nearly filled up again, having never been cleared since the first opening. Water is often standing for weeks, when a few plow furrows would carry the same away entirely.

The expense of draining is but a trifle in comparison to the increase of crops, and the health of crops, soil and man, in connection with the convenience of having dry footing. The farmer on well drained land can work to greater advantage than he can upon wet land; his land is dry enough to plow, while his neighbor is "hunting ducks" upon his wet land; his crops are sown in good season, and get a good start before the dry weather comes on; the land is pliable and warm, giving freshness and vigor to the plants; the decomposition of vegetable matter that has been plowed under, begins much sooner than on wet lands, and the price of the land is much increased, as well as its beauty.

In cutting open ditches, it is desirable to cut them so as to carry the water all off the land that is necessary, and not with too strong a current, as a strong current will wash the banks of the ditch. Open ditches should be opened as nearly parallel with the fences as possible, so as not to interfere with plowing. If ditches should become partially filled by plowing too near, or by cattle running over them, as is often the case during summer, they should be again cleared before wet weather commences in the fall, so that the water may have a chance to escape freely during the winter and spring.

I have lately purchased a poor (so considered) wet land farm on the prairie in this county, upon which I purpose to try as many experiments as time and means will allow, by way of draining, manuring, &c., the results of which I will communicate to you through the pages of the *Genesee Farmer*. E. WOOLVERTON—*Milan, Ohio.*

HARROWING WHEAT.—TURNIPS WITH CORN.

MESSRS. EDITORS:—In reading over your valuable "Hints for the Season," in the April number of the *Genesee Farmer*, I was much pleased with your remarks on sowing clover with wheat and harrowing it in. Harrowing wheat is, I believe, so far from being an injury, a decided benefit. Some years ago my father had a piece of wheat, (about 12 acres,) which in the spring looked so miserably thin and poor, that he thought of plowing it under and sowing a spring crop. Instead of doing so, however, when the ground was dry and in good working order he harrowed it with a set of light harrows. The effect was truly astonishing. The plants immediately revived, and grew so thick and well, that at harvest it was the heaviest and best crop of wheat on the farm. We attributed the effect produced to the harrows stirring up the roots and *manure*, and causing the plants to *tiller*, or to spread and throw out new branches or stalks, which it did, some of the plants having as many as twenty stalks from one root.

Your remarks on the cultivation of barley are good, and to the point. It is a crop deserving more attention than it has yet received, not only on account of the superiority of the straw to that of wheat and oats, but also the *profits* of raising a good crop, and the fine condition in which it leaves the soil. Clover is generally sown with wheat, but it may be sown, and with equal success, with barley, and when so done

the straw and the clover make excellent fodder for cattle. Indeed, a few years since, when hay was very scarce, my father's horses were kept in good working condition all winter on no other food than the barley straw and the clover which had grown with it, except a small quantity of grain and a few ruta bagas. Barley undoubtedly requires a warm and finely pulverized soil. Those whose land is not drained, and who desire to raise barley, should plow the ground either in the fall or early in the spring, into plots not exceeding a rod in width, and as much in a convex form as possible, so that the water may drain out of the soil into the dead furrows on each side.

Did any of your readers ever raise *turnips with Indian corn*? I have, and with success. We all know that our summers are generally too hot and dry for turnips, and the flies very destructive. Now, if we can give the turnips a protection from the intensely hot rays of the sun, without depriving them of the sun's influence, turnips can be raised; and Indian corn, I think, is just the thing. If turnips then can be raised with Indian corn, we can afford to give them a better chance, by planting the corn 4 or 4½ feet or more apart, which will not only benefit the turnips, but the corn also. I wish some of your readers would try this experiment on a small scale—say an acre planted 4 or 4½ feet apart each way, and after the second hoeing is done, and if possible, just before a shower, sow the turnip seed as evenly and thinly as possible, broadcast over the whole surface of the ground. The only way to sow the seed thin enough, is to mix it with sand. The turnips will grow for a month or more after the corn is cut. What good agriculturist does not like to have his cellar, in winter and spring, full of *all* kinds of roots? Try it, and if you fail, try again. Farmers, many of you are rich in agricultural experience and knowledge, and would do much good by contributing it through these pages for the benefit of such as myself.

A YOUNG BEGINNER.

YELLOW CARROTS AS FOOD FOR CATTLE.

EDS. GENESEE FARMER:—There are many farmers who have become acquainted with the value of carrots as food for cattle, and consequently use them; while there are many more who either through ignorance of their value, or negligence in planting, cultivating or feeding, or both, never use them except accidentally when in their way, and then they only feed to get them out of the way. It is to this last class of farmers that I wish to direct this article, and urge them to study the value of carrots, and try the experiment of root feeding for themselves, and if it proves profitable, continue it, if not then drop it, after a fair trial.

Yellow carrots possess a great deal of nourishment, are hearty, strong, and healthy food. They can be raised at a much less expense than an equal value of corn or grain crop, are just as easy fed, and supply the cattle with that vegetable food which they would not otherwise get during the winter months. I have known persons to commence spring work with poor cattle, and by feeding carrots twice a day, and corn once a day, (at noon,) with hay or corn stalks, to work their cattle every working day, and have them gain flesh and get fat by the time the work was done, and at a much less cost than to have fed grain alone. Three years ago, about the first of March, I purchased

a yoke of steers which were in low condition. I fed them carrots twice a day until the middle of the month, also plenty of corn stalks. At this time I commenced working them; I fed them corn in addition to the carrots once a day, with plenty of salt. I worked them hard and fed them well; they gained in flesh rapidly, and the 10th of May they were fit to butcher. I had done a great deal of hauling and work upon the farm, besides over 30 acres of plowing, and I now sold them for more than I paid for them, and they commanded a ready sale and ready pay. There were cattle that worked along side, that did no more work, and had the best of corn and hay, which lost flesh equally as fast as the first yoke gained; besides in hot days they would hang their tongues out of their mouths, as if asking for carrots; and as to this, I can say that I never saw an ox "loll" that was fed upon yellow carrots. I consider them equally as good for cows, and if you wish good, sweet, and solid butter, or rich milk, feed them with a liberal hand, and with salt occasionally.

Cattle may not like them very well at first; if so, sprinkle some salt over them, and they will soon begin to like them. It is very little trouble to raise root crops of any kind, and particularly so with the carrot. All the attention necessary upon a quarter of an acre can be given for "noon spells," or in rainy half days, and between times of other work, and thus cost the farmer comparatively nothing until they are ready to pull, and fit for winter use. This should be done before the frost disturbs them much.

Sow your seed in drills about fifteen inches apart, and then thin to four or six inches, as you choose. The seed should be placed in the ground about the first of June, or earlier. The ground should be made as mellow as time and convenience will allow. The more attention you pay to having your soil in order to receive the seed, the surer you are of a good crop. Cover your seed with the earth very lightly. A brush dragged across the drills will cover them sufficiently. Make your rows straight, to admit of easy culture.

Now, brother farmers, if you have a spare piece of ground, (and if not, make some vacant,) plant enough carrots to feed your stock, and if you have not cattle to feed, give them to your horses or sheep; they will answer them equally as well, and if you are not satisfied with the benefit arising therefrom, then it will be time for you to object. E. WOOLVERTON, Milan, Ohio.

SPROUTED WHEAT FOR SEED.—In a recent conversation with JOHN JOHNSTON, Esq., of Geneva, N. Y., he remarked that in order to satisfy himself whether it would be safe to sow damaged wheat, he took twenty grains of sound plump wheat, and twenty shrivelled grains of the most damaged wheat he had. He planted them an inch apart, and watered the soil. The whole of the sound grains, and seventeen of the shrivelled grains came up. This convinced him that it would be perfectly safe to sow damaged wheat.

THE VALUE OF GAS LIME AS A MANURE.—A writer in the London *Farmers' Magazine* says:

"A correspondent asks the best way of using the refuse lime from gas works. Let him shun it as he would Old Nick; it is poison. I have tried it in many ways. It will make the fruitful land barren. I have half an acre now dressed with it five years; smell not recovered now, although it has been extra-dosed with the best farm yard manure."

NOTES FOR THE MONTH, BY S. W.

KEEP MORE STOCK.—Stock growing is fast becoming popular among our most astute farmers. They begin to find, or rather to realize "in the light," as the Quakers say, the truth of the Scotch maxim, "No cattle no manure, no manure no corn." So long as our generous alluvial soils gave crops without stint, the farmer only set down the cost of feeding a pair of three year olds against the small sum for which he sold them; counting as nothing the manure they made, which alone prevented the deterioration of his soil. But all this is changed now; three year olds are sold at this time at more than \$50 a head, and such is their scarcity on the farm, that the soil is fast deteriorating, except among those thinking farmers who have bought as many lean kine as they have sold fat ones. These men have grown large crops of corn, and fed it all to their animals, thus realizing stall fed prices in their sales, over and above the gain in that extra nitrogenous manure made from corn-fed cattle.

WOOL GROWING.—Our farmers sell off their sheep even closer than their horned cattle. Yet sheep are the best of all animals to manure pastures and fit them for an alternation of cereal crops. The low price of wool, is the main argument of farmers to palliate this reckless course. But how long is the price of wool to be thus depressed without a consequent reaction? Since France has wisely rescinded her misnamed protective duty on imported wool, its price, even in England, has advanced eight cents a pound; and its rise in the United States is just as certain, as that the peace in Europe will cause the price of cereal grains to fall, and the raw materials for manufacture to rise. Thus, while corn, pork, whiskey, &c., will fall in price in the United States, wool will appreciate in price, for the reason that Europe will want all the surplus foreign wool, as the abrogation of the French duty already indicates; while our now well managed and increasing woollen manufactures in this country, will need all our own.

PRICE OF INDIAN CORN.—The late rapid fall in the price of Indian corn need not lead farmers to think that this, our king of the cereals, is to be depressed in price below remuneration. True, the facility with which corn is grown on the great alluvial prairies of the West, may lower the price, but this cheapness is the great spur to its export, by which alone the market is relieved, and better prices are sustained. It was this cheapness in price, induced by the pressure of corn from Chicago on the New York market, that induced its export to the United Kingdom of Great Britain, where it has at length become a regular article of consumption, in common with their indigenous cereals; hence, our export of Indian corn is certain to go on increasing, in proportion to its increase and cheapness in our Atlantic ports.

But that which is to sustain the prices of our agricultural productions a thousand times more than all export demand, is the astounding increased and increasing home market. Our maritime cities are doubling their manufacturing population every few years; the interior towns and cities are all manufacturing, while along the great lakes of the West, on the great rivers, and even on the great, unwooded prairies, large cities are growing up, full fledged from the start, in all the appliances of modern luxury, as if to distance the east in high civilization, with workshops and fixed machinery transported there with that mir-

aculous perfection and rapidity, which denies to both Jonah's gourd and Alladin's lamp the credit of being either mysterious or impossible.

THE LUXURY OF UNDERDRAINING.—A good farmer who has been benefited by tile underdrains, said to me the other day, that he had worked half his life like the Irish wood-sawyer, who to save the expense of sharpening his saw, had to do twice the labor that a sharp saw would have required to do the job! Oh, said he, the luxury of seeing even grass grow upon a soil relieved of surplus water, to say nothing about corn, potatoes, &c., which heretofore had so often failed to remunerate his labor. Yet there are perhaps thousands of farmers at this time in Western New York, who still continue to work with that saw unsharpened.

TOO MUCH STALK IN PROPORTION TO GRAIN.—A Connecticut correspondent of the *Farmer* complains of getting too much stalk and cob in proportion to the grain of his corn crop. Indian corn is at least one of the cereals which does not lose the proportion between the stalk and the grain by excessive manuring. While wheat grows to straw, with a diminished head, on a soil very rich in decomposing organic matter, Indian corn will increase in both stalk and ear on such a soil. I take it that a large cob and small kernels should be charged to the variety planted. Corn, if planted too close, or with too many crowded stalks in a hill, will only show a disproportion of stalk to ear, in a cool wet season; in a warm dry one, both stalks and ears will be short, particularly on a hungry soil. S. W.—*Waterloo, N. Y.*

PROFITS OF FARMING.—We present below, the crops produced by farmers in different parts of Massachusetts, as reported in the Transactions of the Agricultural Society of the last year:

HARVEY DODGE, Worcester, Co. Farm 93½ acres, of which 10 acres were waste, 10 of woodland, and 22 of pasture. Cost of cultivation, \$1299. Products, \$2102.50. Profit, \$803.50.

J. C. MERRIAM, Worcester Co. Farm 60 acres, 38 rods, of which 9 acres are woodland, 4 are swamps, and 21 pasture. Annual expenses, \$446.06. Products, \$1147.84. Profit, 698.78.

AUSTIN SMITH & SONS, Franklin Co. Farm 64 acres. Annual expense, \$1955.60. Products \$3944.90. Profit, \$1989.30.

R. WALES SMITH, Hampshire Co. Farm 85 acres, of which 39 are pasture, and 16 woodland. Annual cost, \$759.75. Products \$1324.11. Profits \$564.36.

DR. MORTEN, Norfolk Co., reports a profit of \$97, 52 on half an acre of potatoes, of \$14.57 on half an acre of fodder corn, and of \$62.02 on half an acre of carrots.

THE LONDON FARMERS' CLUB.—The London or Central Farmers' Club propose to depart from their original constitution, or rather to extend it beyond the limits of a mere discussion society for the ascertainment and publication of agricultural opinions on matters of professional and general interest. They propose to support "a Club House, situated in a central situation, furnished plainly but comfortably with the usual dining, drawing, reading, and smoking rooms of a club house, and in addition, about twenty bedrooms."

SEEDING PRAIRIE LAND.

Mr. C. G. TAYLOR, of Pleasant Ridge, Rock Co., Ill., recommends, in the *Prairie Farmer*, the following method of seeding prairie land with grass:

"I think that the sowing of grass seed on our prairie sod in the spring, and harrowing it in, is a useless expenditure. I have seen it tried, but never have known it to succeed well. The prairie grass sod is too tough, and the roots run so deep that tame grass seed finds but a poor chance to get a foot hold. Upon some of our ravines or sloughs, where it can be pastured quite closely, so as to keep the wild grass short, *red top* seed may be sown, and in a few years it will partially work out the wild grass; but then your crop can never be as good as if the slough had been first ditched and well subdued, and after a few crops of grain had been raised, seeded with red top, and rolled with a heavy roller. In this way you will have a meadow that is a meadow. All of our prairie ground should be well subdued before grass seed of any kind is sown.

Most of our top soil is too light or loose-formed by the many annual burnings of the prairies, and the decay of the many annual growths of grass, leaving some several inches of light black soil, which is as loose as ashes. This should be worked in with the subsoil by several deep plowings. Then you have a more compact soil, and the grass roots will set more firmly. If sown at the first or second year after the prairie has been broken, the soil is so light that the grass, though it may start well, will in a year or two partially dry out, or stand in stools, which makes but a poor meadow. Clover, if sown upon new ground, will do better than timothy, having a long tape root which will bring its support from far below the top of the ground. Therefore I would say to farmers, if they want to get a little tame grass as early as possible, plow deep and sow clover with spring wheat. Wet the wheat and mix the clover seed with it thoroughly and evenly, then sow while wet, and thus the seed is evenly sown. If sown separately, it is very difficult to sow grass seed evenly, particularly if there is any wind. Roll after harrowing.

For timothy, raise two or more crops of grain; plow deep, bring up the subsoil; then sow as above described. Oats will do to seed with, but wheat is better. Oats shade the ground too much. Fall seeding does very well. After a crop of wheat or oats has been harvested, plow deep, sow the grass seed, harrow and roll. This should be done in August or the first of September. Keep all cattle and sheep off—next year mow. Quantity of seed—eight quarts of timothy seed if sown alone is sufficient. If mixed with clover, four of timothy and three of clover is about right per acre."

THOMAS ODIORNE, of Rockport, Ill., gives his experience in the same paper as follows:

"In the month of April, 1851, I had about three acres of wild prairie adjoining a meadow of fifteen acres. The prairie grass was from five to six feet in height on it. I had it burned off, harrowed over with a heavy harrow, and sowed with timothy and red top. That summer I had a pretty fair crop of timothy, red top, weeds and prairie grass. I had it mowed, although the product hardly paid the expense. The next year, most of the weeds and prairie grass had disappeared. Last year (the fourth year after sowing) it was the best and heaviest grass on my farm. If the prairie is too rough to make a good bottom, I should break it up."

SAVINGS BANKS.—The *Mark Lane Express* states that the deposit now in Savings Banks in England, is upwards of £32,000,000 sterling—more than \$150,000,000.

CULTURE AND VALUE OF MILLET.—C. L. WHITING, of Granville, Ohio, writes as follows to the *Ohio Cultivator*:

"Having with many others suffered from the severe drouth of 1854 in my hay crop, I was induced last spring to procure half a bushel of millet seed. When preparing my ground for oats, I reserved one acre and a quarter for the millet. After corn planting, say about the first of June, I plowed the said ground again, harrowed it down, sowed my millet seed, harrowed it thoroughly again, and quietly waited the result. Well, after a while the young sprouts made their appearance, looking very much like what is generally called pigeon grass. But after securing my wheat and oat harvests, I had a heavy crop to cut on my millet ground. Leaving a small piece which I sowed thinner than the rest, to ripen for seed, I mowed the field, and cured it as clover should always be cured—in small cocks. When sufficiently dry, I carted five heavy loads to my barn; and my horses, cows and sheep have thanked me many times for my first experiment with millet. They have all eaten it readily and greedily, and I am so highly pleased with it, that I shall sow much more this spring.

"The time for sowing should be as indicated above, when the weather is warm enough to make corn grow readily—from the 1st to the 15th of June—and the time of harvesting comes after the rush of the other harvest is over, thus accommodating the farmer, at both periods when it wants attention. It yields seed bountifully, which makes a flour very palatable for man, and is decidedly nutritious for every kind of animal, not forgetting the fowls—they are very fond of it. I say then to my brother farmers, try a piece of millet, and I am confident that if you try it once you will again."

HOME MADE GUANO.—As there is a good deal said about guano, and other fertilizers, I will give you my experience. Last summer, in July, I cleared out my hen-roost, and found about two bushels of droppings. I had about one quarter to a third of an acre of corn, in a place where I could not well get at it with the cultivator, without doing more damage than I expected the crop to be worth. I planted it about the 6th of June, intending to subdue it with the hoe. It was so wet that I could do but little with it. However, I went over it once after a sort, cut down the weeds, and then applied my guano. This I prepared as follows: To the two bushels of hen droppings, I put about four bushels of ashes from the ash house, and ground them together, as a mason mixes his mortar. Of this mixture I applied about half a pint to the hill. I husked thirty-four bushels of ears from this piece. There was a good growth of stalks, of a good color, broad leaf, &c. Had this piece been cultivated as corn ground should be, I think you will agree with me that I should have had a great crop. D.—Gates, N. Y.

WHEAT AND OATS.—In a recent conversation with PAUL LATHROP, Esq., of South Hadley Falls, he stated to us that he had derived great advantage from sowing spring wheat and oats together—the crop to be used for horse feed, whole or ground. He stated that the wheat kept the oats from falling, by which means they filled better, and that the mixed crop gave as many bushels as would have been obtained of oats, while the value was considerably greater. The proportion of seed is one-third wheat and two-thirds oats—three bushels of the mixture to the acre.—Boston Cultivator.

AGRICULTURE AND THE PRESS.

THE London *Mark Lane Express* well says: "We have before adverted to the influence of the Press upon Agriculture. In returning to the subject, we have no hesitation in saying that the Press has been mainly instrumental in the dissemination of information upon every department of science and art, and especially in our own province, upon agriculture itself. As public journalists, therefore, we claim for ourselves a privilege in that respect, not ostentatiously, but, as we trust, for the advancement of that interest, upon which, as the mainstay, the prosperity of the nation really depends.

When Agriculture came to be acknowledged as a science, and the necessity of invention had widened the channel for its advancement, the Press undoubtedly supplied the current upon which it was borne onward; and by such aid it became advanced to a degree of perfection never before attained, and even now advances at an accelerated force, with increased speed and more powerful impetus. As we proceed, one fact becomes the stepping stone to another, which is disseminated by the press throughout the breadth and extent of the land, so that where formerly but one mind investigated a question, thousands are now brought to bear upon it, and by the reflux of the same tide that had carried it forward, it becomes returned again to be investigated with accumulated power, throughout districts situated many hundred miles from the original point of introduction, and into recesses as dark as they had hitherto been remote.

We thus perceive that the extension of information has consummated the maxim of the great philosopher Bacon, that "Knowledge is power;" and as it becomes advanced, the pure rays of science so dispel prejudice and error, that, combined with practice, it inevitably attains a position that even the most sanguine scarcely contemplated. Whoever, therefore, asserts that agriculture is but in its infancy, even comparatively, cannot be right; whilst, on the other hand, he who places it at perfection, may too, in a measure be wrong—like the tidal current of the ocean, it is ever flowing onward, yet never appearing to reach its destination."

LEACHED ASHES AS MANURE.—The idea is entertained by some that the only value of leached ashes is the potash they contain. We recollect seeing a field of wheat, several years since, on a portion of which unleached wood ashes had been spread, and on a contiguous portion, leached ashes, from a heap which had been exposed to the weather for many years. The same quantity of leached and unleached ashes were applied to the same extent of ground. The wheat on both lots showed a decided superiority over the rest of the field, but the appearance of the grain, as to yield and quality, where the leached ashes were spread, was equal, or if anything, superior to that on the other lot. A correspondent of the *Rural New Yorker* says he has seen in New York, "valuable crops of wheat raised on lands nearly exhausted, by manuring them in the ordinary way, with leached ashes. The ashes, which had been exposed to the weather for years, were spread over the ground and thoroughly mixed with the soil before the seed was sown."—*Boston Cultivator*.

HANG OUT YOUR BANNERS.—A writer in the *Country Gentleman* says:—"I have scarcely ever rode in the country without thinking how much a matter of convenience and satisfaction would be the general adoption of this practice among the agricultural community. There is certainly a much greater propriety in the farmer putting his name upon his door, when near the road, or upon his gate post when his house stands back, than for persons residing in cities."

PAINT YOUR IMPLEMENTS.

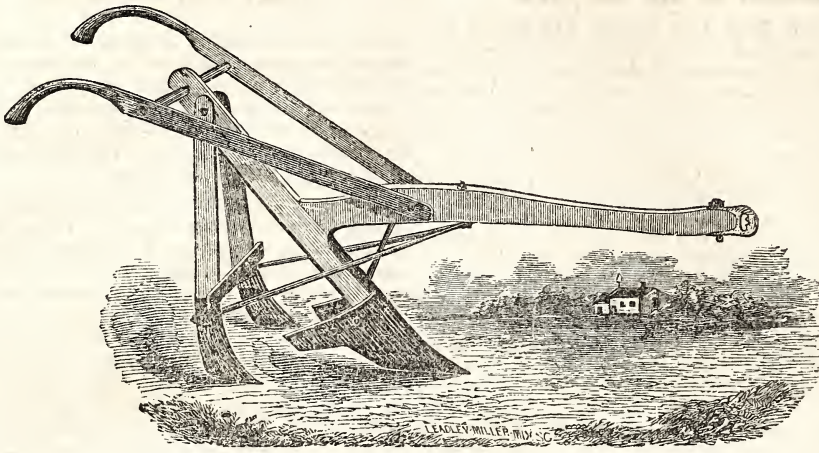
THE primary agent in all decomposition of organic matter is oxygen. Without its presence under normal circumstances, no change takes place. But this oxygen, in atmospheric air, is everywhere present, and decay, under its destructive influence, is always going on. To exclude the air, then, from all bodies we wish to preserve, is the first requisite.

In nothing is this rule of more practical importance than in the preservation of wood. Filling the exterior cells of wood with paint is perhaps the cheapest means of retarding its decay. This is well understood, and generally acted upon in the construction of all new implements. There is, however, one point which appears to be forgotten, or at least to be generally disregarded. Paint, by the action of air and rain, is washed out of the pores, and when this is the case, the work of destruction proceeds, we believe, more rapidly than though the wood had never been painted. English implements are much more costly than American, and this may be the reason why the farmers take better care of them. Though paint is more expensive than with us, they are in the habit of thoroughly washing and cleaning wagons, carts, harrows, cultivators, and in fact every wooden implement on the farm, every few years, and giving them a good coat of red-lead paint. It is astonishing how long their implements last. Many of them look as though they had been handed down from father to son for several generations. In no matter of economy do farmers miss it more than in allowing their implements to go with a deficiency of paint. We venture to say that a wagon frequently washed and cleaned, and receiving a coat of paint every fall, will last twice as long as one never washed except by being allowed to remain out in the rain, and never repainted except with dirt.

Reader, you have a paint can and brushes; at least, it is to be presumed you have, for no intelligent farmer would be without them, and an unintelligent farmer would not take or read the *Genesee Farmer*. If you have not done so already, take the first few leisure days, and get your paint and brushes, wash your implements, scrape off all the blisters, stop up every hole with putty, and then give your wagons, drags, cultivators, plows, wheel-barrow, (for of course you have one,) roller, seed-drill, neck-yokes, and whiffletrees a coat of paint. The expense will not be much. The implements will look as good as new, your hired men will take more care of them, and you will save by this single operation, from the increased durability of your implements, more in the course of a dozen years, than would make you a life subscriber to half a score of the best agricultural papers published.

MACHINE FOR BREAKING STONES.—The Agricultural Association of Canada West has offered a premium of £15 for a "Portable Steam Machine for breaking stones on roads," to be awarded at the next Provincial Fair, to be held at Kingston, September 23d-26th, 1857.

UNITED STATES STANDARD BUSHEL.—This contains 2150.42 cubic inches. Its dimensions are 18½ inches (inside) diameter, and 8 inches deep, and when heaped the cone must be at least six inches high.



HYDE & WRIGHT'S CULTIVATOR PLOW.

HYDE & WRIGHT'S CULTIVATOR PLOW OR HORSE HOE.—The construction of this excellent implement will be readily seen from the above engraving, so that we need not attempt to describe it. It is manufactured by A. GORDON & Co., of this city, whose advertisement will be found on another page. Those who have used this cultivator, speak of it in the highest terms. By its use some of our best farmers are enabled to dispense with the hand hoe altogether in cultivating their corn. It is well made, and we are glad to know that it is having a very extensive sale.

PLOWING BY STEAM.

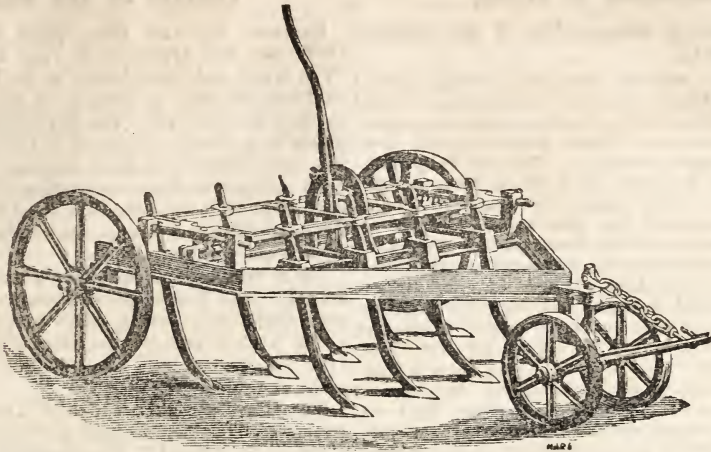
An English agricultural periodical discourses eloquently on the subject of plowing by steam. The "Panting Giant," as HOSKISS terms the steam engine, has muscle enough to grapple with the clods of the field; only, as Hercules at the spinning-wheel, and Sampson in the corn-mill, we must first beguile him into submission to the yoke. As for spinning and grinding, to be sure, our modern antitype of all the strong-limbed demi-gods of yore, has long been broken to the work; but the most honorable of all labor—that of delving and tilling—has still to upbraid him for his stubbornness. He is very ready at all such mill work as threshing, winnowing, or crushing corn, cutting and cooking cattle food, sawing timber, lifting drain waters off low lands, or throwing irrigation floods over thirsty meadows. Some enterprising agriculturists have reduced him to the drudgery of conveying manure to their prolific acres, by the apparatus of pumps, hose-pipes, and hydrants, so much talked of; and latterly, one ingenious mechanist has conducted him into the field, and there made him excavate and burrow underground drains and lay in drain tiles in the most perfect manner. Why, then, stop short of tillage, the fundamental and principal operation of husbandry; why is not steam to break up the hardened surface of our farms, expose an upturned subsoil to the fertilizing atmospheric influences, cleanse it from parasitic and encumbering weeds, and prepare it to receive and nourish the tender roots of crops? Twenty acres are to be prepared as a seed bed six inches deep; that is, 12,000 tons of hard ground have to be sliced, inverted, and crumbled into

fine mould, but 'the panting giant' can do it—do it conveniently in two days, if you only show him how. And the true reason why he does not accomplish the feat must be, that nobody has yet watched the turning of a furrow as Newcomer gazed at his palpitating tea-kettle; we are simply waiting for a genius and his 'invention.'

FARM IMPLEMENTS.

MESSRS. EDITORS:—As the columns of the *Genesee Farmer* are open to the thoughts of agriculturists throughout the country, I, as one, suggest a few things regarding farm implements. "A place for everything and everything in its place," is a motto every farmer should follow. There ought to be on every farm a tool house, or some place designated for that purpose, where the farmer can at any time find any implement he desires, and as soon as the work is done, it should be replaced. But instead of this, how often do we see harrows standing against the fence, the plow laying in the fence corner, with the share rusty from exposure to every storm that passes, the scythe hanging in a tree, and the hoe reposing beneath; and when wanted for use, the harrow teeth are constantly falling out, "the plow don't work right" for three or four days, "the scythe is of no account," and "the hoe wants wedging," if not a new handle. All these complaints are heard from want of care in housing them when they are not wanted. The man who thus neglects his tools, goes to as much expense every ten years in repairs, as they originally cost. And it would be well if most implements should get a coat of paint every two years, to preserve the wood.

Poor RICHARD says, "What is worth doing at all, is worth doing well." Every young farmer then, should make it a part of his business to see that every implement, from the reaper down to the hoe, is housed from the storms of winter, and the intense heat of summer. Your implements will work as well as when they were put away, if they are treated in this manner, and if there should be any repairing needed, do it in the winter, or on some rainy day, so that you will be able to pitch into the spring work in good earnest on the first opportunity. Use your mind; have all your plans laid, and then carry them through. DROFANNAH KNOX—*Mt. Healthy, Ohio.*



AN ENGLISH SCARIFIER.

As a general thing, American agricultural implements are far more simple, efficacious and economical than the English, and certainly far better suited to the peculiarities of our soil, climate and system of tillage, than those of any other nation. At the same time, every intelligent agriculturist desires to be acquainted with every improvement in his noble art, whether originating in his own or foreign countries. For this reason we shall continue to give, occasionally, engravings of the most approved European agricultural implements.

Whether we shall ever dispense with the use of the plow or not, is yet an open question, although MECH. in the *London Times*, has recently declared that its days are numbered, and that the American digging machine, drawn by eight horses, will, with some slight improvements, soon universally take its place. There can be no question of one thing, that both in this country and the best farmed districts of England, the cultivator has, to a great extent, taken the place of the plow in cleaning and pulverizing land. In Western New York, a three times plowed summer fallow is uncommon. After breaking up, the cultivator is used instead of the plow, and is found to be quite as efficacious and much more expeditious, producing quite as good, and some assert better crops of wheat. In Great Britain the cultivator has equally triumphed. It is as indispensable on a farm as a plow. But for it, the vast quantities of turnips which are now sown, entirely doing away with summer fallow, except on the heaviest clays, could not be got in in season. As soon as the wheat is harvested, the stubble is all torn up with a broad tined cultivator, which causes all small seeds to germinate, when another cultivating completely destroys them. On *light soils* this course is much the best, as it does away with fall plowing and all attendant leaching, &c.

In England, as in this country, there are many different cultivators—the most approved is the one figured above. We saw an imported one at the Provincial Show of Upper Canada. It is made of iron, and costs from \$40 to \$90. The manufacturer says of it: “The principal novelty in this invention is the frame at the top, suspended about six inches above the lower frame, parallel with which, by means of a lever, it is moved backwards and forwards. This

simple and easy movement regulates the depth of the tines or prongs in the soil; and as the implement does not require lifting, (the frame of which is at all times the same height from the ground,) all that is necessary to alter the depth of penetration, is a slight movement of the lever above referred to, which changes the inclination of the tines. It will be found to answer all the purposes of harrowing weeds and rubbish from the most foul land; most efficient for opening, raising and pulverising the soil; and as blades of different widths are made to fit the tines, it may be used with great advantage as a skim, to take off the couch, &c.”

There are some late improvements in its construction, which consist in substituting wrought iron instead of cast iron for the tines, without any extra cost, whereby the liability to breakage is entirely obviated; and in the application of a lever to each side of the scarifier, so that either traveling wheel may be raised or depressed higher or lower than the other, to suit sloping grounds, and to cause the teeth to penetrate a uniform depth in the land; and this alteration may be effected while the implement is proceeding in its work.

—•••—
TO GET A HORSE OUT OF A FIRE.—The great difficulty of getting horses from a stable where surrounding buildings are in a state of conflagration, is well known, and that in consequence of such difficulty, arising from the animal's dread of stirring from the scene of destruction, many valuable horses have perished in the flames. A gentleman whose horses have been in great peril from such a cause, having in vain tried to save them, hit upon the expedient of having them harnessed, as though they were going to their usual work, when, to his astonishment, they were led from the stable without difficulty.

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ONE of the most beautiful swans on Gosfield Lake, Essex, (England,) belonging to SAMUEL COURTLAND, Esq., was seen floating dead. On being drawn to the shore, it was found that it had been engaged in mortal conflict with a monster pike. The pike had swallowed the head and neck of the swan, and being unable to disgorge it, both had died, and were found thus linked together.

MANAGEMENT OF RABBITS.

AN experienced correspondent of the *Country Gentleman* says:

"Allow me to take this occasion of offering to the breeders of these little animals, some corrections of my former statements as to their breeding and management. I then wrote from my *English* knowledge, and now from my American experience. This has taught me that in so warm a climate, three feet is too small for the length of a *breeding* hutch; its dimensions should be four feet long, two feet wide, and sixteen inches high. The descent of the floor, towards the back, should not be more than one inch, and the permanent opening for drainage not to exceed half an inch; when this space is wider, the animal in its playful racing round the hutch is liable to catch its foot and break a leg. The floor should be covered by a false bottom of half-inch, unplanned hemlock, not only to protect it from being gnawed, but to prevent slipping. It is true a rabbit will breed every month in the year; but I advise the does remaining idle in our severe winter months, as the young produced at that season seldom attain much perfection.

"A most thorough ventilation is absolutely necessary to the health of the rabbits, while a close impure atmosphere is the sure source of much disease. Better an open woodhouse than a confined room. Rather than my rabbits should breathe a tainted atmosphere, I allow the thermometer in my rabbitry to stand at from 10° to 15° of Fahrenheit, and occasionally it will, in the night, register the temperature to have been as low as zero—and this without any injury to the rabbits.

"On the subject of feeding, I would offer a caution against the use of lettuce when going to seed, and recommend green corn sown broadcast as an excellent substitute. Hay should be fed with a liberal hand; no matter how coarse, it will oftentimes be preferred to oats; and if what is thrown out on cleaning the hutch is within the reach of cattle, they will eat it with avidity. Universal as is the opinion that rabbits must not be allowed water, I have found no ill effects from it, and have even substituted it for roots in the winter time with success.

"I recommend the *novice* never to buy young rabbits that have been only lately weaned from the doe, but take such as are more than half grown, say from five to six months old. They are then ready to commence breeding, and require no other care than regular feeding and cleaning."

DISTEMPER IN DOGS.—W. S. SAMPSON gives the *Ohio Cultivator* the following remedy for the distemper in dogs:

"When first noticed, and before the animal drags his hind legs, if possible, immerse him all but his head in warm water, as hot as the flesh will comfortably bear, rubbing with the bare hand over the kidneys, small of the back, urinary organs, and under the whole length of the belly, for half an hour at a time, until no symptoms remain; always when taking the animal out of the bath, rub thoroughly dry with coarse towels. The disease is simply a disturbance of the secretions about the bladder and urinary organs, and all it wants is to restore them to equilibrium as soon as possible."

A PROLIFIC COW.—The *Batavia Advocate* notices a very remarkable cow owned by H. Wood, of that town. She is a red Devon, 8 years old this spring, and has had 13 calves. In 1854 she had two calves at a birth, last year she had four, and this spring three, all full grown and well formed. Who can beat this?

REMARKS ON THE HORSE.

SANFORD HOWARD, Esq., editor of the *Boston Cultivator*, was appointed to open a discussion on "The Horse and Farm Stock," at the Legislative Agricultural Meeting at Boston, on the 1st ult. He confined his remarks to the *Horse*, premising that it would be impossible to say all that should be said on this noble subject in a single lecture.

He noticed the horse, as a native of the old continent only. The horse was still found wild in the vast wastes of Central America. It had been a theme for poets, from the days of Job.

There was a great contrast between the French draught horse that weighed a ton, and the Shetland pony that weighed two hundred pounds.

The Arabian race of horses were of great antiquity. Little change had been made in that race for thousands of years.

The Horse was not a native of America. In one section an important advance had been made toward "originating a breed." He considered a horse under the idea of a machine. The motions were, running, galloping, trotting, and slow motion. The hare was built of a form good for leaping. Strength was in its hind quarters. The horse Eclipse approximated to the hare-like model. In trotting the motion was different, and a different mechanism was required. A more equal distribution of strength to the fore quarters was requisite.

Besides *form*, what may be called "texture" was of consequence. One expression sometimes used in handling was, "he handles like a glass bottle." In general, the highest nervous energy accompanies the "closest texture."

He said the term "thorough-bred," was first used in England to denote Eastern blood. As frequently used, it was a term of mere humbug.

The Morgan Horse was the one meant in his allusion to originating a breed in this country. This horse was a colt produced at Springfield, Mass., in 1792. It was taken by the owner, Mr. MORGAN, to the State of Vermont in 1795. The sire of this colt was called "True Britain," which was stolen by one SMITH from Gen. JAMES DE LANCEY when the "Rangers" and "Cow Boys" had their border quarrels. After the difficulties were generally terminated, the same SMITH undertook to visit Gen. DE LANCEY. SMITH was invited to breakfast, and DE LANCEY is said to have ordered his slaves to make certain preparations in the barn. After breakfast he caused a halter to be put around the neck of SMITH, and hung him in his barn. This was in the State of New York.

Four of the male progeny of this favorite horse were kept entire. Their digestive organs were strong. The height was from 14½ to 15 hands, and their weight was from 900 to 1000 pounds each.

The horse "Blackhawk" was bred from one of these four, called the "Sherman Morgan." Mr. HOWARD spoke at length of the Blackhawk strain of the Morgan race, and the differences between horses required for stables and coach horses.

He thought the idea of combining all qualities in one horse preposterous. This was sometimes advocated. But race horses, draught horses and roadsters should be each of different forms or models, in some respects. He considered it indispensable to keep the best specimens of each model as sires.

THE DISEASES OF LAMBS.

The following extracts from YOUTT's work on Sheep, may not be unacceptable to many of our readers at this time:

SCOURS.—One of the most fatal diseases lambs are subject to, is *diarrhœa*, arising from cold, or from some fault in the mother's milk, or from the new stimulus of the grass when the lamb first begins to crop it, or from its overpowering stimulus at the weaning time, when it constitutes the only food of the animal. While the animal feeds and plays, and the countenance is cheerful, there is no danger; but when the eyes are heavy, and the step is slow and sluggish, and the wool begins to look unkindly, no time is to be lost. A gentle aperient is first indicated, in order to carry off any offensive matter that may have accumulated in and disturbed the bowels—half an ounce of Epsom salts, with half a drachm of ginger, will constitute the best aperient that can be administered. To that must be added the sheep's cordial, and housing and nursing.

We have used small doses of opium with success, for scours in sheep—say a pill as large as an ordinary sized pea, given as soon as the complaint is perceived, and repeated every other day till the diarrhœa ceases. But the best and safest remedy is milk porridge, or milk thickened with wheaten flour. A full grown sheep should be drenched with half a pint of this milk porridge every morning, till the disease abates. Lambs should have about a teacupfull. To make the porridge, take two table-spoonfuls of flour and mix it intimately with a little cold water or milk, being careful to break all the lumps; then add this to a pint of boiling milk, carefully stirring it to prevent it from becoming lumpy, or from burning. It should boil for a few minutes after the flour is added. For mild attacks of the scours, this thickened milk will be found quite effective. For aggravated cases, a little opium in addition may be given.

SCOURS PRODUCED BY CONSTIPATION.—The next disease to be mentioned, is one of a mingled character. The milk of the mother is no sooner received into the true stomach (the abomasum) of the lamb, than, by the action of the gastric juice, it undergoes a sudden change; a portion of it is converted into firm curd, while the other retains its liquid form, but is altered in character, and is become *whey*. When either the milk or the stomach of the lamb is not in a healthy state, this change takes place in a more decisive manner; the curd is hardened and retained, and sometimes accumulates to a strange extent; and the whey, pressed out in greater quantity, finds its way quickly through the bowels, and gives an appearance of purging of a light color. In the natural and healthy state of the milk and the stomach, this curd afterward gradually dissolves, and is converted into chyme; but when the one takes on a morbid hardness, and the other may have lost a portion of its energy, the stomach is sometimes literally filled with curd, and all its functions suspended. The animal labors under seeming purging, from the quantity of whey discharged, but the actual disease is constipation. It is apt to occur about the time when the lamb begins to graze, and when the function of the stomach is naturally somewhat deranged.

This coagulation of the milk is produced by the gastric juice, and the accumulation of the coagulated mass is to be traced to the suddenly increased power of this fluid, when a new species of food, and more difficult of digestion, begins to be received.

Rennet has been often recommended to be given to cattle and sheep for scours. On this point YOUTT observes:

Mr. Parkinson orders some *rennet*—the preserved gastric juice of the calf—to be mixed with more milk, and poured down as rapidly as possible; for being thus introduced into the stomach in an unchanged state, he imagines that it will intermix with the food and produce a regular and healthy digestion. The contrary must, of necessity, take place, for the additional quantity of rennet will still more harden the milk, and the death of the animal will be rendered more certain.

The existence of this coagulation may be suspected when a lamb that has been apparently healthy, and the mother yielding a sufficient quantity of good milk, is evidently distressed, begins to heave at the flanks, can scarcely be induced to move, has its belly considerably swelled, and is either quite costive, or there is a discharge of whitish, whey-like fœces. The stomach has occasionally been found perfectly filled with curd, and which has weighed three or four pounds. The only chance of saving the lamb consists in dissolving this coagulum. The rennet of Mr. Parkinson would harden it still more. Chemistry teaches that, while a free acid produces coagulation of the milk, an alkali will dissolve that coagulum. Magnesia, therefore, should be administered, suspended in thin gruel, or ammonia largely diluted with water, and with these should be combined Epsom salts to hurry the dissolved mass along, and ginger, to excite the stomach to a more powerful contraction.

COSTIVENESS.—It is generally connected with a bare and dry state of the pasture. The existence of it having been clearly ascertained—there not being on the one hand, any mechanical obstruction, from the wool of the tail being glued over the fundament; nor, on the other hand, any evacuation of small drops of liquid fœces, accompanied by violent straining; the case must be immediately attended to, for it will generally be attended with a degree of fever that may be exceedingly dangerous. Half-ounce doses of Epsom salts, in solution, should be administered every six hours, until the bowels are well evacuated; after which the lamb and the mother should be turned into more succulent pasture.

We have found Turkey rhubarb a better aperient for lambs than Epsom salts. Salts are apt to produce *diarrhœa*, and thus to cure one complaint by inducing another almost equally injurious. Rhubarb, on the other hand, has first a purgative action, and afterwards has a slightly binding effect, besides giving a tone to the stomach and bowels. It is undoubtedly the best aperient for all young animals that can be used.

FEVER AND INFLAMMATORY FEVER.—The lamb is very subject to fever, rapidly degenerating into inflammatory fever. It is sudden in its attack, and usually confined to the best conditioned and most thriving lambs in the flock. If taken in time, the loss of a little blood, or the administration of a tolerable dose of Epsom salts, will generally arrest the malady in its commencement.

In some cases, and when the lamb has been hurried on too fast, for the early market, the stage of simple fever will scarcely be recognized, but the animal will be taken all at once with what is termed the *staggers*. It is precisely the same inflammatory fever which is recognized by the term "blood" in cattle. An hour before, the animal seemed to have been in perfect health; then, almost without warning, he becomes evidently ill; the head is protruded, and the walk is staggering, or the lamb stands still, unable to walk at all, and then he falls, and struggles a little while, and dies. The whole flock being exposed to the same exciting cause, and the mysterious and powerful, although unsuspected, influence of sympathy, being at work, it

seems to run through the flock like wildfire, and a dozen of them have been lost, in less than as many hours. The lancet, physic, and comparative starvation, will afford the only means of cure or prevention.

PORK FROM ESSEX AND NEAPOLITAN PIGS.—Last summer, Mr. WM. CHAMBERLAIN, of Red Hook, N. Y., sent us a Neapolitan pig, Mr. C. S. WAINWRIGHT, of Rhinebeck, sending at the same time an Essex. These pigs were kept together, and slaughtered at Christmas. They were not large, but very plump and *meaty*. As fresh roast pork, the meat was very fine—pronounced so by various judges of good eating, among whom it was distributed. If any superiority of flavor could be perceived in one over the other, it was in favor of the Neapolitan. The hams were cured alike, and the quality of each has been duly compared by a jury of epicures, who unanimously decided that a preference could not be given, from the fact that either was so good it could not possibly have been better.—*Boston Cultivator*.

BERKSHIRE HOGS.—H. H. HANKINS, of Bloomington, Clinton Co., Ohio, writes to the *Ohio Cultivator* as follows:

"While in Europe as Agent for the Clinton County Stock Importing Company, I took much pains in examining the different breeds of hogs there, being instructed to bring hogs, if any could be had which would be likely to improve our present stock. We saw no other breed there which in our opinion was equal to the Berkshire, and as the price was high, and we already had them, we brought none."

WATER FOR CALVES.—Accident, says a correspondent of the *Ohio Cultivator*, recently taught me what, till then, I did not know, viz., that calves while fed on milk, need free access to water. I had supposed the milk (consisting of their entire food) was enough without water. But in changing my calves from one pasture to another, they passed a water trough and drank heartily. I acted on the hint, and have since supplied them, and find they need water as often as older cattle. No day passed without their using more or less.

MANGE IN SHEEP.—In order to cure this troublesome disease, it is necessary in the first place, thoroughly to eradicate the scurf, after which the following application may be made, and repeated every two or three days till the cure is effected:

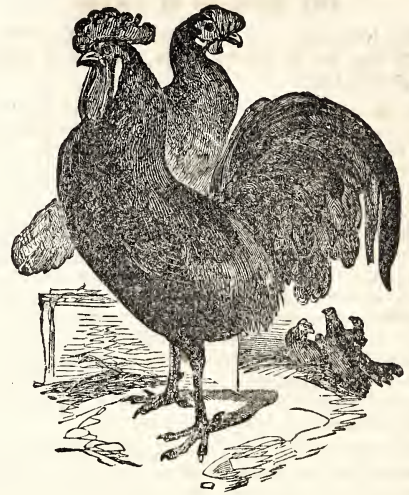
Spirits of turpentine, $\frac{3}{4}$ pint.

Sulphur (flowers), $\frac{3}{4}$ pound.

Train oil sufficient to make the above, when mixed, into a thin paste.

MR. LEVI T. WILCOX states that there is in the town of Crown Point, N. Y., a cow that has had thirteen calves within the last three years, viz.: Eight within the first year, two the next, and three this spring. The last five are still living. He challenges the world to beat this.

ALWAYS purchase cattle that have been fed on lands of as *poor* a quality as your own. It rarely happens that cattle purchased from rich lands thrive well on poor soils; but on the contrary, those from poor farms do well on good land.



THE BLACK SPANISH FOWL.

THIS is a noble race of fowls, possessing many great merits; of spirited and animated appearance, of considerable size, excellent for the table, both in whiteness of flesh and skin and also in flavor, being juicy and tender, and laying exceedingly large eggs, in large numbers. They are entirely black, and beautiful fowls, but some think too delicate for our climate. What is the experience of our readers?

HATCHING OF DOUBLE YOLKED EGGS.—An English paper says:

"It having been deemed advisable by Mr. WATERS, the Superintendent of her Majesty's Aviary, in order to improve the breed of the genuine Dorking fowl, to cross it with the China breed, the necessary arrangements were made for that purpose. A Dorking hen, which had roosted for some time past, with the fowls from China, has recently been in the habit of laying double yolked eggs twice, and sometimes thrice a week. Mr. WATERS determined to attempt the hatching of one of these double yolked eggs, and placed it with several other eggs under the hen. The result was, that two chickens were produced from this single egg; one is a cock bird, of the pure Cochin China breed, and the other a hen chick, of the Dorking genus. Both are now in good health, and there is not the least doubt of their being reared. This is a circumstance, as we are informed, unprecedented in natural history."

WASHING SHEEP.—The day selected should be one of sunshine, if possible; and as this work in the Northern and Middle States is commonly attended to from the 10th to the 25th of May, it will rarely be the case at that season that the water will be of the right temperature before nine or ten o'clock in the morning; and when only a few sheep are to be washed, it will be better generally to delay it till afternoon. If the washing can be conducted immediately after a warm rain it will be easier, the effect of it being to soften and loosen the dirt. After the washing is completed, the sheep should be turned upon a thickly covered sward, that no dirt may collect upon the fleeces, before they are shorn. Driving them along a dusty road must be avoided, if possible, when returning from the washing.

GREAT SALE OF SHORT HORNS.

THE celebrated Fawsley herd of Short Horns, belonging to Sir CHARLES KNIGHTLY, was sold at public auction about three weeks since. The occasion drew together an immense concourse of people—between two and three thousand. "This," says the *Mark Lane Express*, "is the seventh great sale of Short Horns which has taken place since the creation of the breed, and the result, which we give below, shows that it is not the least in importance and character. No similar event in our recollection has excited more attention among agriculturists, or gathered a more influential or more numerous assembly. For days before the sale, a great number of noblemen and gentlemen had come to inspect the herd, and many were represented by their agents at the sale. From the elevated sphere of royalty and peerage, down to the humblest tenant farmer—from John o' Groat's to the Land's End—from Norfolk to the west of Ireland—from France, America, nay even from the Australian antipodes—a vast assemblage of eager purchasers had gathered round the Westcomb Farm Ring, notwithstanding the unpropitious weather that unfortunately prevailed."

There were 78 animals in the catalogue, of which 77 were sold. The total amount realized was £6,163 10s. There were altogether 49 cows and heifers, 48 of which were sold, and which realized £3,979 10s.; the 29 bulls produced £2,184. Thus we have the following averages:

Females, - - -	£82 18s. 1½d.,	or \$413
Males, - - -	75 6 2½	or 376
Whole herd, - - -	80 1 0	or 400

Among the bulls, the famous *Duke of Cambridge*, which Sir CHARLES bought at the Hendon sale for 280 guineas, was bought by Mr. CATOR for 330 gs.

JONATHAN THORNE, Esq., of Thornedale, Dutchess county, N. Y., purchased four animals—*Amaranth*, a seven year old cow, for 120 guineas; *Blouglind*, a four year old cow, for 80 guineas; *Elgetha*, a two year old heifer, for 100 guineas, and *Mrs. Flasher*, a two year old, for 150 guineas.

MESSRS. MARSHALL & SMOOT purchased a two year old bull for 95 guineas. There may be more than these that have been purchased for American gentlemen, but the above are all that are mentioned by our English exchanges.

The history of the Fawsley herd is told in a few words. Sir CHARLES, from the moment he resolved to breed Short Horns, applied at once to the fountain head; he selected his first cows from the herds of breeders well known for the purity of their blood; and by the exercise of an exquisite judgment in the selection of his bulls, has succeeded in combining substance with quality, power and constitution with the graceful delineations of irreproachable symmetry.

"By glancing over the catalogue of the sale," says the *Mark Lane Express*, "one is forcibly struck with the frequent repetition of the same pedigrees; for we find that out of the family of that noble cow *Walnut*, bred by Sir CHARLES out of *Pauline*, which he bought so far back as the year 1821, there were no less than 33 animals in the sale, 32 of which (one not having been offered, on account of being laid with milk fever,) have produced no less than £2,136; that is, an average of £67 for each animal, many of which were young bull calves. The 21 cows and heifer calves realised £1,518, that is, about an average of

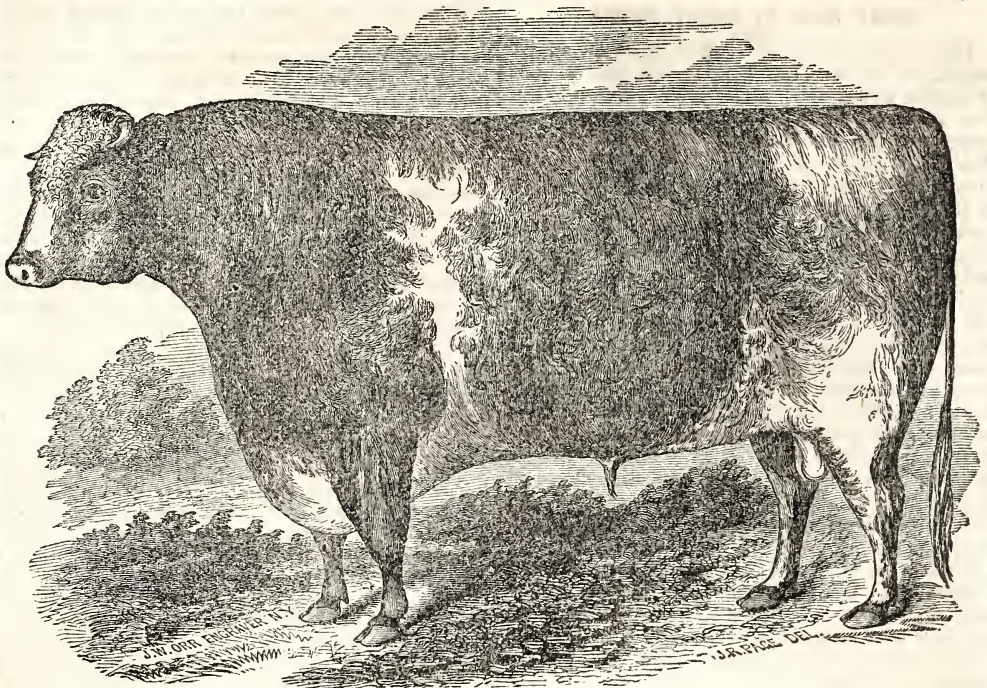
£72 5s. 6d.; the eleven bull calves fetched £618, which gives an average of about £56 4s. In 1822, Sir CHARLES bought another remarkable cow, *Valuable*, by *Defender* (194), of Major BOWER, (we believe a friend of the Booths.) Out of this prolific animal we find 22 cows and bulls in the catalogue, which have realized about £1,857; which gives an average of about £84 10s. The 15 cows and heifers from that family fetched £1,274, and their average about £85. The 6 bull calves produced about £583, which gives them an average of about £97. Thus, out of two cows, Sir CHARLES has managed, after a lapse of 35 years, irrespective of previous public and private sales, to array in his catalogue the names of 55 animals, which have realized nearly £4,000."

Every one at all acquainted with the science of breeding will readily understand the importance of this fact, which at once establishes the character of a herd, not only as a proof of the prolific qualities of the animals and the regularity of their breeding, but as a stamp of that originality and distinctness of blood, by which the famous herds of the great breeders were so eminently characterized. And this is not a slight merit. Any man can stock his farm with well selected animals, and thus form a herd; but a glance over their pedigrees will immediately make manifest the heterogeneous character of their origin, and however successful the combination of the blood thus brought together may eventually be, yet the result can but be uncertain, and much valuable time may be thrown away in abortive experiments. When, on the contrary, a breeder can refer back to a great many generations of one family, and can extend his close observation over many individuals of that family, he at once ascertains their hereditary defects and qualities, and thus acquires an unerring guide in the selection of his bulls, whereby he may correct the one and perpetuate the other. Such is the basis upon which every breeder ought to rest his enterprise. It is by no means an easy task; many will not do it. Time alone, exquisite judgment, patient and unremitting attention, the most scrupulous jealousy in the infusion of new blood, to improve existing qualities, and create those that are wanting; such are the essential requisites for the formation of a herd—such is the difficult task of the breeder; and such has been the successful performance of a few men, among whom the venerable proprietor of the Fawsley herd holds so prominent a rank.

MULES VS. HORSES.—At a recent Legislative Agricultural Meeting at Boston, the Hon. Mr. FISHER, Senator, from Fitchburg, said that he had two mules that would do more work than his horses. They will work well on hay alone. Mules will pay for good treatment as well as horses, and they will bear bad treatment much better. They had no diseases, and were kept at two-thirds the expense of horses. They would draw as well as oxen. They were very intelligent about many things. They would work between rows of carrots only fifteen inches apart without treading on any of them.

Mr. F. EMERSON, of Boston, said he had travelled over the Allegany mountains with mules at the rate of seven or eight miles per hour.

Cows with young calves should be well attended to at this season, and both kept in clean comfortable quarters, and both regularly and well fed.



SHORT HORN BULL "ROMEO" (12619.)

ROAN Short Horn Bull, five years old; the property of L. G. MORRIS and N. J. BECAR; winner of the first Prize at the Fair of the United States Agricultural Society, held at Boston, in October, 1855; he also gained the first Prize at the New York State Fair, in 1853, and the first Prize at the show of the American Institute the same year. He was bred by the Marquis of Exeter, Burghley House, Stamford; got by Columbus (10063); dam, Juliet, by Fairfax Royal (6987); g. d. Miranda, Bellerophon (3119); gr. g. d. Perfection, by Sillery (5131); gr. gr. g. d. Matilda, by Champagne (3317); gr. gr. g. d. Cowslip, by Favorite (255); gr. gr. g. d. by Gibson's Sampson.

THE VALUE OF SKIMMED MILK.—The value of what passes under the name of "dairy slop"—which is skimmed milk, whey and buttermilk—is not always reckoned at as much as it is worth. Mr. Warren Judd, of South Hadley, sends us a statement showing the result of a trial made in feeding six pigs. He gave them $50\frac{1}{2}$ bushels of corn, mostly ground, the cost of which was \$49.54. He paid \$11 for the pigs at five weeks old, about the first of November, 1853. The pigs were killed at various times, from July 1st to December 20th, 1854, and the pork brought from seven to eight cents a pound. The aggregate weight was 1,723 $\frac{1}{2}$ lbs., which brought \$132.04. Besides the meal or corn, the pigs had the skimmed milk and buttermilk of six cows. Deducting the value of the corn, and the first cost of the pigs, \$60.54, we have 71.50 as the value of the skimmed milk and buttermilk—equal to \$11.91 for each cow for a year.—*Boston Cultivator.*

REMEDY FOR EWES DESERTING THEIR LAMBS.—Let a dog bark at and tease the lamb in the presence of the ewe, and all the natural instinct of affection of the mother will be aroused.

A HERD OF HEAVY CATTLE

FOR a year or two past there has been a spirited competition between some of great stock farmers of Illinois. The object being to produce the heaviest herd of cattle of 100 head.

In the spring of 1855, B. F. HARRIS, of Champaign county, sold one hundred head of cattle, the average weight of which was 1,865 lbs.

Determined to improve on these weights, but in the generous and manly spirit of competition which is always productive of great results, Mr. RUFUS CALEF and HENRY JACOBY, both neighbors of Mr. HARRIS, and large and opulent stock farmers, joined forces, and shipped in the spring of 1855, one hundred fat cattle, the average weight of which was 2,090 lbs., thus leading HARRIS 125 lbs. to the bullock.

This put HARRIS on his mettle, and about the middle of last March, Dr. JOHNS, the President of the Illinois State Agricultural Society, was called upon to attend the weighing of another herd of 100 head, belonging to Mr. HARRIS. The aggregate weight of the herd was 118 3-5 tons, or 2,372 pounds each! Twenty-five of the best and fattest averaged 2,662 pounds each. "The Baby" of the twenty-five kicked the beam at 2,876 lbs. They were so fat that three days were required to drive them to the station, 14 miles distant.

The average age of the 100 is less than five years. Not one has ever been housed a day in his life; a half dozen pairs only have been yoked, and a less number worked. They have been pastured and herded on the prairies in the summer, and in the winter fed on corn in the shock and sound timothy, and yarded along the skirts of the Sangamon timber.

It is said that Mr. HARRIS is likely to realize from \$18,000 to \$20,000 for the lot.



L. G. MORRIS' BERKSHIRE PIGS.

BERKSHIRE PIGS.

YOUATT & MARTIN in their excellent work on the Hog, state that "the Berkshire pigs belong to the large class, and are distinguished by their color, which is a sandy or whitish brown, spotted regularly with dark brown or black spots, and by their having no bristles. The hair is long, thin, somewhat curly, and looks rough; the ears are fringed with long hair round the outer edge, which gives them a ragged or feathery appearance; the body is thick, compact, and well formed; the legs short, the sides broad, the head well set on, the snout short, the jowl thick, the ears erect, the skin exceedingly thin in texture, the flesh firm and well flavored, and the bacon very superior.

"This breed of pigs has been generally considered to be one of the best in England, on account of its smallness of bone, early maturity, aptitude to fatten on little food, hardihood, and the females being such good breeders. Although termed the Berkshire breed, these pigs have been reared in various parts of the kingdom; and some of the very best have come from Staffordshire, from the progeny of the celebrated *Tamworth boar*. In Leicestershire, also, is a very fine race of them, descending from the stock of RICHARD ASTLEY, Esq., who devoted much care to the improvement of the Berkshire pigs.

"Hogs of the pure original breed have been known to attain to an immense size, and weigh as much as 800 to 950 pounds. One bred at Petworth measured seven feet seven inches from the tip of his snout to the root of his tail, and seven feet ten inches in girth round the center; five feet around the neck, ten inches round the thinnest part of the hind leg, and two feet across the widest part of the back. He stood three feet nine inches high; and, what was most remarkable in this monstrous animal, he did not consume more than two bushels and three pecks of ground oats, as and barley per week.

PARKINSON, in his *Live Stock*, vol. ii., gives some ordinary accounts of the size and weight attained by individuals of this breed, and the profit yielded by

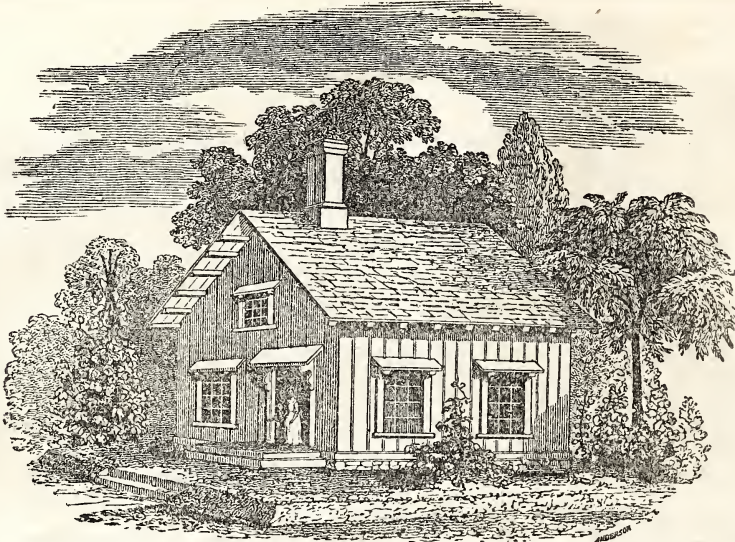
them, and also of their aptitude to fatten at grass. They are not, however, generally of an enormous size, being much smaller than several of the older breeds; their ordinary weight averages from 250 to 300 pounds, and some will at two years old weigh 400 pounds."

They have been greatly improved by a cross with the Chinese and Neapolitan breeds, reducing them somewhat in size, but increasing their early maturity and aptitude to fatten. The cross is also said to have improved the flavor of the flesh, and rendered it more delicate.

Some years ago in this country there was a Berkshire fever, and interested individuals raised the anticipations of farmers, in regard to the Berkshire, higher than the character of this or any other breed could meet. The consequence was, that a reaction speedily took place, and the Berkshire has been as much underrated, as its advocates overrated it. Still, taking it all in all, there are few, if any, better breeds of British swine than the Berkshire. Its meat is not so fat as that of some other breeds, and on this account is not so well adapted for barreling; but for bacon, which is exported to England in considerable quantity, and might be to a still greater extent, this lean-meated quality is an advantage rather than a detriment. For fresh pork, the Berkshires are good, but perhaps not quite equal to the improved Essex, Suffolks, or Middlesex, though being of larger size they are preferred by some.

Our engraving is an excellent likeness of Mr. MORRIS' Berkshires, which have no superiors on this or the other side of the Atlantic. They are the smallest boned, finest haired, and most symmetrical Berkshires we ever saw; approximating closely to the improved Essex in these respects.

ABORTION AMONG COWS.—Earl Spencer says, that since he placed lumps of rock salt in his pasture lands, none of his cows have suffered abortion.

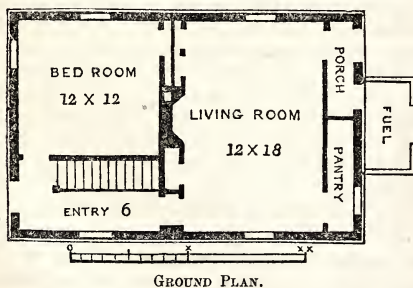


DESIGN FOR A SMALL COTTAGE.

THIS simple design is given to show how a very small cottage, built of wood, may be made to look well at a very trifling cost. In form it is a mere parallelogram, and while it is devoid of very strongly marked architectural character, it combines something of home-like, or domestic expression.

The picturesque character is partly owing to the bold shadows thrown by the projecting roof, and partly to rafter brackets and window hoods.

Let any one imagine this little cottage, with its roof cut off close to the eaves, with the rafter brackets that support the projecting eaves omitted, with the windows and door mere bare frames, and he has an example of how this same cottage would look as we commonly see it built; that is to say, without the picturesqueness of wood clearly expressed by using it *boldly*, (not neatly and carefully,) by a sense of something beyond mere utility, evinced in the pains taken to extend the roof more than is absolutely needful; and by raising the character of the windows and doors by placing hoods over their tops.



GROUND PLAN.

The single apartment called the *living room*, twelve by eighteen feet, is the common apartment, the kitchen, sitting room and parlor of this family; for it is intended for a family which "takes care of itself."

Opening the front door of this cottage, we see an entry six feet wide, which contains the stairs to the second floor. Underneath these stairs, another flight descends to the cellar.

On the left of the entry is a small bed room twelve feet square. If this bed room is used constantly, it would be better to have it communicate with the living room by the door on the left of the chimney flue, which is now the closet door; and the arrangement, supposing this bed room in constant use, will give greater convenience and greater warmth in winter, since one fire will keep both rooms warm. If, on the contrary, it is only to be used occasionally, it would be better not to make it communicate. Indeed, with a little nicety of construction, there is space enough to retain a small closet, for the living room, and still have these two rooms connected.

The living room is of a convenient size for daily use, and is lighted by a window on each side. The chimney being nearly in the center of the house, no heat will be lost in winter. Near one corner of the opposite side of this room is a door opening into a small pantry which is lighted by a window, and at the opposite corner is another door opening into a narrow porch. We have cut off the passage to form this small porch, in order to protect the back door, which opens into the main apartment of the family, from sudden draughts and cold blasts, a point most important in a northern climate, but too often neglected, to the serious discomfort of the inmates of small cottages. From this back porch another door will be seen opening into a small wood-house, so that fuel may be had without going into the open air.

The second floor of this cottage contains two good sleeping rooms, and two large closets. There are no fire-places, but openings are left for stove-pipes in the flues, so that one or both rooms can be warmed.

There is a cellar under this cottage, and the outer cellar door should be provided just beneath the pantry window, if no more convenient position is found for it.

Cottages of this size usually have the stairs placed in the living room, while the front door opens directly into one of the apartments. We think, in this respect, our plan has much greater comfort and convenience to recommend it.—*Downing's Country Houses.*



Horticultural Department.

HORTICULTURAL HINTS FOR THE MONTH.

In many sections of the country, late as it is, there will still be planted this spring thousands of trees, and we wish we could say a word to each planter on the necessity for care and judgment in the operation. As a general rule nothing should be grown among the young trees. If you *must* or *will* grow something let it be a hoed crop, and of these carrots, mangold wurzel, beets, ruta бага, &c, or beans, and even potatoes are better than Indian corn. If planted in a wheat field, dig up all the wheat round the tree, in a radius of four feet. If you simply dig a hole just large enough to admit the roots of the tree, you may expect the tree to perish, or at best to make a very poor growth.

In planting, it is better not to manure the soil with unmixed farm yard manure, as experience proves that it is injurious to the young roots. If manure must be used, let it be well composted with soil for several months before it is required, and dug in the soil for three or four feet round the tree. Be sure you do not plant too deep; the collar of the tree should not be more than an inch or two in the ground. Let the soil be put into the hole in small quantities at a time—care being used to get the soil in direct contact with every root on all sides.

Pruning transplanted trees must, on no account be neglected. In removing them from the nursery, even though more than ordinary care is used, many of the roots are necessarily broken off, and as the equilibrium between roots and the branches has been disturbed, it must be restored by cutting off some of the branches. This should not be done without judgment. It is better to shorten some of the leading shoots than to cut off branches or shoots altogether. After the tree is planted the soil around it should be mulched, especially if it is sandy. Almost any material will answer for a mulch; tanbark, saw dust &c., are frequently used, but well rotted barn manure not only makes a good mulch, but furnishes fertilizing matter in such a form as to be very advantageous to the young trees. On heavy soil, mulching is not necessary, if the land round the trees is frequently stirred and kept free from weeds.

Trees that were planted last fall should be examined. The earth may have settled and left the roots partially exposed, or the frost or rains may have left crevices in the soil by which the air is admitted into the soil to an injurious extent; or the wind may have blown the tree from its upright position, and disturbed

the soil round the base. All such things should be rectified immediately.

Mulching is advantageous to all trees, whether recently transplanted or not; and it is, in most cases, absolutely essential to the successful cultivation of *dwarf trees*. The roots of the Angers quince, and of nearly all stocks used for dwarfing, are small, fibrous, and near the surface, and are, consequently, easily affected by any change in the weather, while the trees grafted on to them are naturally inclined to a more vigorous growth, and regain a larger quantity of earth and food than the roots can supply. On this account high manuring and a moist though well drained soil are absolutely essential,—and mulching provides these requisites more easily and constantly than any other method. Liquid manuring is very beneficial on dwarf trees, but there are few so circumstanced as to be able carry out the system without great labor.

THE FARMERS' KITCHEN GARDEN.

By the time this article meets the eyes of our readers, the greater portion of garden crops should be sown. Many of them will be up,—or at all events the weeds will. Remember that weeds and good vegetables can never grow together on the same soil, and also that to keep them under you must begin in season. If the weeds once get the start of you, the labor of eradicating them will be increased fourfold. Everything in the garden should be sown in rows sufficiently wide apart to admit the free use of the hoe; and the first fine day that the rows can be distinguished, the hoe should be passed through them lightly. A slight hoeing not only kills the weeds, but benefits the young plants by stirring the soil.

BEANS.—Prominent in the American farmer's garden should be the bean. It is indispensable to a well furnished, economical table. It can be served in an endless variety of forms—good in all. It is an every day dish, nutritious and palatable. The Mohawk Bush Bean is a good variety, and, what is a great advantage, stands frost better than any other.

Lima Beans should be planted in hills like Indian corn. They require a very warm dry soil, to bring them to maturity in this climate. Many sow them in drills, but they do far better in hills three or four feet apart. Put five or six seeds in a hill; three plants, however, will be sufficient. Unleached wood ashes, thoroughly incorporated with the soil before planting, we have found specially beneficial for beans.

CUCUMBERS.—For early plants, the seed must be sown in a hot-bed, but in this climate, cucumbers can be had in good season and in great perfection with ordinary open ground culture. You cannot make soil too rich for cucumbers. We prefer to dig a hole two feet in diameter, and two feet deep, filling it with fermenting horse manure, covering it with very fine, rich and sandy mould, six or eight inches above the ground. In this put a few seeds early in May, cover them on cold nights, and you cannot fail of having cucumbers. The hills should be six feet apart, and three or four plants in a hill. The Early White and the Early Frame or Cluster are among the best varieties. The White Spine is also very fine.

MELONS.—Musk and water melons require similar soil and culture to cucumbers. They are however, more liable to injury from heavy rains. The Black Spanish watermelon is considered one of the best varieties in

Western New York. The White Imperial, if the seed can be obtained pure, is also very fine. The Long Island are good early varieties.

SQUASHES.—A light, dry soil is best adapted for squashes. They should be planted in hills six feet apart, and four to six seeds in a hill. Two or three shovels full of well rotted compost should be placed in each hill. The Boston Marrow is considered the best variety. The Missouri Cushaw is very good. The Valpariso, was first introduced here from South America, when very fine, but it has deteriorated till it is now only fit for stock.

EGG PLANTS must be sown on a rich, light soil, either where they are intended to remain, or on a warm border, transplanting them during showery weather in June. They should be planted two feet apart. The Long Purple is a very superior variety for family use. The Large Prickly-Stemmed Purple is one of the largest varieties. The White Egg Plant is the variety from which the species took its name; when in a half grown state, it resembles in size, shape and color, a hen's egg.

SALSIFY, or Vegetable Oyster, needs similar cultivation to the carrot. The seed may be sown in drills, a foot apart, and the plants thinned out to six inches in the rows. They like a rich, deep soil.

TURNIPS may now be sown for early use. A dry, light, gravelly soil, not too rich, is best. We prefer to sow them in drills, 12 or 14 inches apart, as they are much more easily kept clean and thinned out than when sown broadcast. The Early White Dutch, Red-Top Dutch, and Yellow Dutch are excellent early varieties.

The **VEGETABLE MARROW** is a connecting link between the Pumpkin and Squash, and needs similar soil and cultivation. Plant the seed in hills six feet apart, about the first or second week of May.

OKRA.—This is a vegetable introduced quite recently into this country from the West Indies. In the Southern States it is already cultivated to a great extent. Its chief value is in the green pods, which are used in various ways, but are especially valued for flavoring soups, &c. The culture is somewhat similar to that of Lima Beans. The seed should be sown in drills, about two feet distant. When the plants are up they must be thinned out about nine inches apart. They require very clean culture, and should be earthed up a little as the plants grow. They do best on a dry, warm soil. The pods must be gathered when about an inch and a half long, and quite green. When ripe they are useless for the kitchen.

HOVEY'S SEEDLING STRAWBERRY VS. McAVOY'S SUPERIOR.—At a recent meeting of the Cincinnati Horticultural Society, N. LONGWORTH sent in a communication offering a "premium of \$25 to any person who shall, in the next Strawberry season, exhibit ten plants or stems of Hovey's Seedling, or of any other pistillate variety, before the Society, having as many berries, ripe and green, blossoms and buds, and the berries of as large a size, including all the fruit, and of as fine a quality, as McAvoy's Pistillate Superior."

LEMON TREE.—SAMUEL WILLIAMS, of Waterloo, writes us: "A lemon fell from my tree yesterday, weighing eight ounces. I have many more still larger, ready to fall. I have the tree in a large tub in our sitting room, ready to be moved out of doors when the frosts are gone."

CULTIVATION OF TOMATOES.

MESSRS. EDITORS:—I wish to tell you my mode of growing tomatoes. I do not know that there is anything new about it, but it is not very common, and deserves to be much more general, since a dish of good early tomatoes is such a general favorite. My plants are always forwarded in a hot-bed, or in the greenhouse, and grown in pots until they are about a foot or a foot and a half high, and are hardened off so as to bear turning out about the second week in May. I plant them about three feet apart in rows; when planted, I drive down a few stakes six or eight feet apart, leaving them about four feet high the whole length of the rows, and nail a strip of wood all along on the top, and tie two more pieces lower down the stakes, about a foot apart, so as to make a sort of trellis something like a grape vine trellis.

Before planting I always dig the ground deep and make it rich with manure. At the time of planting I mix in the soil immediately about the roots, about a table-spoonful of Peruvian guano to each plant, which gives them an early start. When they have grown sufficiently long to tie to the trellis, I select two or three of the strongest shoots and tie them loosely to the trellis, cutting away all other small laterals which may grow on the main branches. I let these main branches grow until they have come in flower and set the first bunch of fruit; then I pinch out the top, one joint above the fruit, leaving the leaf entire. I then allow it to go on again until it has flowered and set another bunch of fruit, when the top is pinched out one leaf above the bunch, the same as the first, and so on of all the rest, taking care to cut out all the little laterals which may grow on the main branches down to the axels of the leaves, as often as they are produced, but leaving the leaves entire.

If any one will take this little extra trouble, he will be amply repaid and absolutely astonished at the immense clusters of fine large tomatoes he will have. If planted in a favorable situation, they will ripen at least as early as though grown any other way out of doors, and frequently three days or a week earlier. When ripe they will hang longer on the vines without decaying. The situation can hardly be too sunny. Deep, light, loamy soil suits them best. I always save my own seed. I began by saving a few of the roundest and smoothest tomatoes I could find for seed; now I have them, not flat or wrinkled all up, but as round as an orange, and as smooth and large as the largest Northern Spy apple. J. SALTER—*Rochester, April, 1856.*

GARDENING.—COBBETT, in his "Advice to a Father," gives a beautiful picture of his home; and one of the most pleasing features it presents is his garden. This was not merely a kitchen garden, but he had his shrubbery and trees, where the wild birds built their nests, and made sweet music to cheer his rural life. Nothing has such a calming influence upon the passions of men as the cultivation of choice plants and flowers, or even vegetables for the kitchen. Children, too, love the innocent and childish labors that a garden affords. True, they may sometimes roll in the dirt and soil their hands, but they will grow stronger and more innocent than parlor dresses and white hands could ever make them.

THE JAPAN PEA.

EDS. GENESEE FARMER:—Last year I received from your office a few seeds, which I promised to plant, and give you the result. I now propose to do so. I must first say that I believe the last season to have been a very poor time to prove the value of new varieties of plants, either in regard to quantity or quality. I received five seeds of the Japan Pea, two of which did not germinate. About four weeks after it came out of the ground, one withered and died; the other two grew finely—considering so wet a season—and became large beans; so, at least, I considered them, at the time, for while growing they certainly bore no resemblance to any pea I had ever seen before. In August they commenced to blossom, and continued blossoming, setting and filling, until the frost came. I then cut both stalks and hung them up, and herewith present you one of them. The other stalk had two hundred and twenty seeds; these I intend to plant this spring. Should we have a more favorable season, I may be better able to form an opinion of their value for feed, and in regard to their becoming acclimated, &c. I planted them on a stiff, heavy clay soil, very rich, and somewhat protected from the west winds, which nevertheless broke off some of the branches, so much so that I lost at least one-fifth of the crop.

I had at the same time some melon seeds. The Orange Watermelon came up, but was drowned immediately. The Citron Muskmelon brought one to near maturity, when the frost put a stopper on it. The flower seeds I handed over to the girls. They said there were some beautiful flowers from them, yet like everything in this vicinity, they suffered severely from the wet. D.—*Gates.*

A NEW PROTECTION AGAINST INSECTS.—The Imperial Horticultural Society of Paris has just received a communication from M. TESSIER, one of its members, stating that the ammoniacal waters of gas have the property of destroying the insects which commit such ravages on the fruit trees. This ammoniacal water is mixed with three-fourths its quantity of common water, and is then sprinkled over the leaves and branches of the tree. A small trench is dug around each tree to receive the water which falls, and this kills the destructive insects which harbor about the roots of fruit trees. —*Southern Cultivator.*

What is meant by the "ammoniacal waters of gas?" We suppose the "Gas House Liquor," or the water which distils over in making gas from bituminous coal, is referred to. It is well known that this liquor is very noxious to insects, but we should fear it would injure the "leaves and branches of the trees." The ammoniacal salts which it contains, render gas house liquor a very valuable fertilizer, and in England it is frequently used on grass land; but it is necessary to dilute it with many times its weight of water, or the bituminous matter, sulphurets, &c., it contains, will certainly destroy the grass, as the experience of those who have used it abundantly demonstrates.

SETTING OUT LARGE TREES.—A correspondent of the *New England Farmer*, set out over a hundred apple trees, five years ago. He says: "Part of my trees were large, and a part small. The smallest have done the best; indeed, the largest tree in the orchard now, was one of the smallest when planted."

THE CURL IN PEACHES.

On reading an article in your "Rural Annual," upon the "Curl of the Leaf of the Peach," and finding you give no remedy, I feel it my duty to give you one. I had in my garden, in New York, a large, fine peach tree, when I discovered all at once that the leaves began to curl, and look as though fire had been so near as to kill them, and also a great quantity of ants constantly going up and down the tree. I could find no one who could give me a remedy, so I determined to find one myself. The tree was about six inches in diameter. I dug the dirt from it until I reached the spreading roots. I then took a large twenty-penny nail, and carefully drove it through the heart of the tree up to the head. I then replaced the dirt, and in five or six days I made an examination and found around the tree, on the top of the ground, something resembling sawdust. I then began to remove it, and found at the bottom, or nearly where I had driven the nail, seven large grubs, about two inches long, dead.

This led me to a farther examination. I found that these grubs had commenced their work under the roots, and worked their way up between the bark and the tree, eating their way as they went. Of course they were perfectly shielded from any external application, so I came to the conclusion that the gases produced by the sap rusting the nail killed them.

This tree grew after that as fine as a newly planted one, and the peaches then on it, about one-fourth grown, which had begun to wilt, immediately swelled out and grew as rapid as the shooting limbs, and were larger and finer than ever before. After I came to this country, I tried the same experiment, which gave the same results as in New York.

The size of the tree determines the size of the nail. It should be long enough to reach through the heart, and not quite through the tree. W. W. SMITH—*Mountain Cove, Fayette Co, Va.*

FLOWERS FOR IMMEDIATE EFFECT.—In the March number of the *Genesee Farmer*, a lady asks what flowers she shall plant for immediate effect, and you very wisely answer, annuals. There is nothing to be compared with them. I first employed them under similar circumstances two years ago to beautify a new yard, the soil of which was not fit to plant any permanent roots into. The beds had to be cut out of slate that was thrown from the bottom of the cellar, and filled in with earth from the roadsides, and rotted bogs and sand, as the soil around our place is clay. I thought it of no use to set shrubs or roots of any kind into such a soil until it had been worked for two or three years to mix the ingredients. I have added a great deal of fine chip dirt and sawdust, and unfermented manure, in order to loosen the soil, as well as enrich it. You no doubt would have laughed, if you had seen me raking off the coarse chips into heaps for burning, and then carefully throwing the fine materials together, ready for sifting with a coal riddle. I then planted it with annuals, and even the first year, bad as the soil was, they grew, to the surprise of every one, and I was amply rewarded for my trouble. A FARMER'S WIFE.

The best cough mixture that has been made, consists of a pair of thick boots, mixed with lots of air, and plenty of exercise in the flower garden.

HARDINESS OF THE OSAGE ORANGE.—M. B. BATEHAM, late editor of the *Ohio Cultivator* writes as follows in regard to the hardiness of this hedge plant:

"The past winter has afforded good evidence that the Osage Orange will endure as severe cold as is likely to occur in almost any habitable portion of this country. After a moist Autumn, which prevented the ripening of the wood, and kept the plants growing till very late, the winter set in quite suddenly, the thermometer falling as low as 15° to 20° below zero early in January, 20° to 28° below in February, and 10° to 18° below as late as the 10th of March, in different parts of Ohio, where there are hedges or nurseries of Osage Orange in almost every county. And after much examination and inquiry, I am not able to find the least injury done to the plants by the winter—excepting that the last year's shoots are part killed, as usual, but not as close as they need to be cut in pruning this Spring.

In a nursery near this city, of 300,000 plants, one and two years old, not one seems to be killed, although no protection was given them."

THE PARADISE TREE.—We have just heard from a friend in Panama of a natural wonder called the Paradise Tree. Seven of these trees, and no more, grow in the space of about half a mile, in Veraguas, Trinidad, one of the provinces of the Isthmus, on the land of one Sen. ROMERO. Each tree bears a single white flower, which opens at maturity, when a perfectly formed flower dove, with outspread wings and head lifted upwards, is discovered within. The flowers emit an odor that may be scented for at least half a mile from the spot. What is almost equally strange, is the fact that at a certain period every year, these trees wither to the very ground, leaving a small mound of dust, from which, like the fabled phoenix from its ashes, each tree yearly rises to the completion of its perfect flower. It has no seeds, nor can it be propagated by slips or grafts, or transplanted. A full description has been secured, which was taken down from the lips of a gentleman of veracity, who had seen the trees, and learned their history for the past eighty years.

SOAP SUDS FOR CURRANT BUSHES.—A correspondent of the *Indiana Farmer* says:

"I have found the cultivation of currants to be very profitable. By care and attention I greatly increased the size of the bushes and the quantity and quality of the fruit. My bushes are now about eight feet in height, and are remarkably thrifty. The cause of this large growth, I attribute in a great measure to the fact that I have been in the habit of pouring soap suds and chamber lye around their roots during the summer season. I am satisfied from my own experience and that of some of my neighbors, that this treatment will produce a most astonishing effect upon the growth and product of the bushes, and would advise others to give it a trial."

TRIMMING TREES.—We do not think it makes any difference as to the health of trees, whether they are pruned in April, May or June; but now is, perhaps, as leisure a moment as any; and the sooner they are trimmed, the surer one is not to rub off the swelling fruit buds and young leaves from the limbs, which is an important consideration. A man may destroy much forthcoming fruit by rubbing his clothes amongst the standard limbs of his tree whilst in the act of pruning it—*Drew's Rural*.

WONDERS FAMILIAR AND UNOBSERVED.—The pains that are taken to ransack remote countries for vegetable wonders, are in every way commendable. But we ought not to neglect those immediately under our own eyes, and easy to be procured. About the time, or immediately after the tulip mania in Holland, the people of England opened their eyes with astonishment, on hearing that there was a magnificent tree discovered in America, that during the season of flowering, was covered with tulips! The excitement was great, and pains were taken to procure the tree that became all the fashion. It truly deserved to be, for though it was our familiar tulip-tree, "the real old yellow whitewood," of the Yankees, (*Liriodendron tulipifera*.) it is certainly one of the finest shade trees of any country. Another example is the Hemlock, which is discarded with contempt by some who will pay several dollars for East India evergreens of decidedly inferior beauty, and requiring nursing through every winter. Our common Sumach, (*Rhus typhinum*.) with its long pinnate leaves, and large compact panicles of red berries, would be a wonder if recently discovered in China, but is now regarded almost as a nuisance. We observe that some of the English nursery catalogues offer our fence-line elders for sale in pots, and some other varieties equally common here. "Tis distance lends enchantment to the view," but true taste, properly cultivated, will find as much beauty in common objects, as in those which are hard to procure. We should be glad to see more attention given to our native trees in forming ornamental plantations. The Black, Silver, and Sugar Maples, are really more desirable than many imported rarities; our Catalpa is more valuable than the eastern Paulownia; the common White Pine is equalled in beauty by few of the new costly evergreens; and similar examples are common.—*Country Gentleman*.

THE CHRYSANTHEMUM IN CHINA.—A correspondent of the *Gardeners' Chronicle* says:

"The Chrysanthemum is the Chinese gardener's favorite flower. There is no other with which he takes so much pains, or which he cultivates so well. His Camellias, Azaleas, and Roses are well grown and well bloomed, but with all these we beat him in England; in the cultivation of the Chrysanthemum, however, he stands unrivalled. The plants themselves, seem as it were, to meet him half way and grow just as he pleases; sometimes I met with them trained in the form of animals, such as horses and deer, and at other times they were made to resemble the pagodas, so common in the country. They are always in high health, and never fail to bloom most profusely in the autumn and winter."

STRAWBERRIES.—We learn from Mr. R. G. PARDEE'S revised *Manual of the Strawberry*, that during the last year, New York city consumed from 47,000 to 54,000 bushels of this delicious fruit; Philadelphia from 10,000 to 14,000; Boston from 9,000 to 11,000; and Cincinnati from 11,000 to 14,000. Over 3,000 bushels were received many days daily at New York, for its own supply and that of the suburbs. A single county in New Jersey, from a single port, over 25 miles distant, sent us by steamboat, during one day, 200,000 baskets, and several years ago the Erie Railroad brought 893 bushels to town on a single train.—*N. Y. Times*.

GRAPE CUTTINGS AT CINCINNATI DESTROYED BY THE COLD.—Mr. N. Longworth, the pioneer of the grape culture and wine manufacture on the Ohio river publishes a letter in the Cincinnati papers, in which he states that he cannot supply cuttings this season, as the buds of the Catawba, Hebermont and Marion grape vines have been killed by the severity of the winter.

GIRDLED TREES.—There is much complaint this spring in regard to girdling of fruit trees by mice and meadow moles. The winter was so very severe that these little gentry were forced to live on bark or starve to death, and in many cases they had not a choice of bark, but seized the nearest shoots, and lived in the most penurious manner, on the sprouts of maple trees.

A Worcester correspondent inquires what is best to be done when fruit trees are completely girdled? We think when such trees are small it is best to cut them off near the ground and let new shoots come up. When these shoots come from the scion or grafted part of the trunk the new tree will be of the right kind. But when the mice have eaten all the bark above the point where the scion was inserted, a new scion may be put in the old stock.

Some orchardists recommend the insertion of scions long enough to connect the two parts of the bark that were separated by the mice, and when the tree is six inches in diameter this is the only way to save it. The scions or twigs should be long enough to reach wholly across the part which was gnawed, and should be so sharpened at each end as to fit into the wood above and below the naked sap wood.

A tree may be saved in this way in case a good number of scions are used—but whether, in common cases, we shall be repaid for our trouble there is a question. Trees saved in this way are not often thrifty.—*Mass. Ploughman.*

FRUIT PROSPECTS.—The Buffalo *Courier* fears that peaches will be scarce this year. A fruit grower near that city reports that the buds upon his peach trees are killed, and that the same thing is true of most of the peach trees in that section. The buds of the apple, plum, pear and cherry trees are unharmed.

The Sandusky *Register* has the following in reference to Ohio. "From what examination our fruit-growers have made, no hopes of an ordinary crop of fruit are held out. In many places, on low ground, the peach trees are killed, and in almost every instance the fruit bud is blasted. Apples give us considerable hopes for a full crop, though farmers and nurserymen are not agreed upon this actual condition of their trees."

A letter from Central Illinois says: "The growth of last year on the peach is almost universally killed. Many of the cherry and pear limbs injured. The Osage Orange is in good condition."

SUPPORTS FOR NEWLY-PLANTED TREES.—Mr. L. B. Summer, in the Country Gentleman, recommends the following supports for newly-planted trees, by which the tree is prevented from swaying in any direction:—"I make a frame by driving down two upright stakes, of a size suitable to the age of the tree to be supported, being careful not to interfere too much with the roots, letting them go deep enough to be quite firm, and as high as, or even higher than the lower branches—say full two-thirds the height of the tree; then nail a strip of wood across the top, and tie the tree to that, but loose enough to prevent girdling."

It is said that the water in which potatoes have been boiled, sprinkled over plants, completely destroys all insects, in every stage of their existence from the egg to the fly.

LUCK WITH TREES.—We have noticed that certain men always have much finer peaches, and pears, and plums, than most of their neighbors, and are called *lucky*. Their luck consisted, in the first place, in doing everything well—taking what their neighbors called foolish pains—leaving nothing unfinished; and in the second place, in taking good care of what they had; that is, giving their trees wide, deep, and mellow cultivation, applying manure where necessary, and especially the liquid manure from the chamber and wash tub. Great pains taken, whether with fruit trees or with children, scarcely ever fail to produce good results.

PROFITS OF PEAR CULTURE.—At the last Legislative Agriculture Meeting at Boston, M. P. WILDER Esq., stated that in 1848, a gentleman in the vicinity of Boston set an acre of ground to dwarf pear trees—the trees eight by twelve apart. Between the pear trees, quince trees were planted. The fifth year from planting, the acre produced 120 bushels of pears, and 60 bushels of quinces. Of the pears, 70 bushels were sold at from \$5 to \$6 per bushel—the rest were given away. These trees, with the exception of two or three per-cent, which have died, are still healthy and productive.

MICE AND FRUIT TREES.—From all parts of the country we hear complaints of the great injury done to fruit trees by the mice during the past winter. It would seem that mice are more numerous this spring than ever before known. What is the cause of this? We should have thought that the intense cold of the winter of 1854 and '55, and of the past winter, together with the rains of last summer, would have had a tendency to lessen their number; but such does not appear to have been the effect. Will our correspondents give us their views on this subject.

SOIL FOR FRUIT TREES.—Fine fruit can only be grown upon a soil naturally or artificially dry and firm. A wet soil, or a very loose peaty one, never produces fine fruit. Sandy soils, gravelly soils, or clayey soils, as well as what are called loamy soils, can all be made to grow fine fruit, if properly cultivated, provided the subsoil is porous enough to permit the water to escape rapidly downwards a sufficient depth to allow the roots of trees at least three feet of soil, which is never filled with stagnant moisture—and the greater depth of perfectly drained soil, the greater the certainty of success.—*Exchange.*

TO PREVENT MILDEW ON GOOSEBERRY BUSHES OR FRUIT.—Straw soaked in Beef or Pork brine or brine made the usual strength with saltpetre and salt ten days and spread under the bushes, will prevent the leaves and fruit from mildewing, besides favouring the ripening and very much improving the flavor of the fruit. Spread it on as soon as the leaves begin to appear, and a little when the fruit is about half swelled out. P. R.

YELLOW LOCUST.—If you have but little fencing timber fit for posts on your farm, sow a few pounds of yellow locust seed, and when the plants are two years old they may be transplanted. In twelve years from the time the seed is sown, you may begin to cut them for posts.

Ladies' Department.

FARMERS' GIRLS.

Up in the early morning,
Just at the peep of day,
Straining the milk of the dairy,
Turning the cows away—
Sweeping the floor of the kitchen,
Making the beds up stairs,
Washing the breakfast dishes,
Dusting the parlor chairs.

Brushing the crumbs from the pantry,
Hunting the eggs at the barn,
Cleaning the turnips for dinner,
Spinning the stocking yarn—
Spreading the whitening linen
Down on the bushes below,
Ransacking every meadow,
Where the strawberries grow.

Starching the "fixings" for Sunday,
Churning the snowy cream,
Rinsing the pails and strainers;
Down by the running stream;
Feeding the geese and turkeys,
Making the pumpkin pies,
Jogging the little one's cradle,
Driving away the flies.

Grace in every motion,
Music in every tone,
Beauty in form and feature.
Thousands might covet to own—
Cheeks that rival spring roses,
Teeth as white as pearls;
One of these country maids is worth
A score of your city girls.

HINTS FOR HOUSEWIVES.

TO CLEAN BLACK CLOTH.—Brush the dust from the clothes; remove the grease from the collar, &c., with a brush or sponge and warm water, soap, or oil of turpentine; boil one ounce of ground logwood a few minutes in one quart of water, and add a piece of soda the size of a horse bean; strain the logwood, lay the clothes on a table, and brush them with the hot liquor all over till they are well wet; then brush them with hot water, on the surface of which put a few drops of olive oil. Care must be taken not to have too much oil on the surface at once. When washed, add a few drops more. The operation must be carried on uniformly, and in the direction of the nap of the cloth. Hang the clothes up to dry, and they will be a beautiful black, particularly if the grain of the cloth is not worn off.

BED BUGS.—Paint the bedstead with a good coat of verdigris, or merely paint the tenons, mortices, joints, and holes through which the cord passes. Be careful that the inside of the holes be thoroughly bedaubed, and have a good coat, as the rough wood will absorb much paint. Then besmear profusely the joints and holes with *unguentum* and put it together; and if thoroughly done, bed bugs will not inhabit it for fifteen years, if ever.

GOOD STYPTIC.—To prick the finger with a needle when sewing, is a very common accident, and sometimes the puncture is deep and the blood difficult to stop. This can be cured instantaneously by touching the wound with a mere particle of dry chloride of lime, and not washing it off for a few minutes. The puncture immediately closes, and causes no further inconvenience. We have tried this styptic with perfect success.

PRESERVING EGGS.—We have kept a supply of eggs for winter, for many years, by laying them in salt, small end down. Some put them in lime water, and some in one way and some in another, but we find salt a good preserver, and the trouble of putting them down is slight.

BEECHER ON BEANS.—"Succotash," says Mr. BEECHER, "is a liquid compromise between corn and beans." It is perfect when its flavor is that of corn lapsing into bean, and of bean just changing into corn. In short it is a dish whose flavor represents the evanishing point of both beans and corn, towards a mystic vegetable union in some happier sphere. But to be perfect, there should always be a hierophantic bit of pork presiding over the nuptials, and giving its unctuous blessing."

CUSTARD PUDDING.—Beat up six eggs, add a quart of new milk, a little lemon peel shred fine, five or six bitter almonds blanched and grated, or crushed, and sugar to your taste, and mix all together; then have ready your dish, covered with a good puff paste, into which pour the custard; grate over it half a nutmeg and bake it, or put it into a ha-in without paste and boil it. If it is boiled, serve with melted butter.

VEAL MINCED WITH POTATOES.—Chop some cold veal very fine; add to it an equal quantity, or more, if you choose, of cold boiled potatoes chopped; also season with pepper and salt to the taste; add to it veal gravy or hot water to moisten it, and a good bit of butter, dredge a little flour over it, and put it in a stew pan over a moderate fire; cover it close for half an hour. When thoroughly heated it is done.

A CERTAIN CURE FOR A RATTLESNAKE BITE OR SPIDER STING.—Take the yolk of a good egg, put it in a tea cup, and stir in as much salt as will make it thick enough not to run off, and spread a plaster and apply it to the wound, and I would insure your life for sixpence. The subscriber has tried the above remedy in a number of cases, and never knew it to fail in one.—P. PRATTYMAN, M. D., in *Country Gentleman*.

TO POACH EGGS.—Have on the fire a frying-pan with water fast boiling, break each egg into a separate cup, slip them carefully into the boiling water; when the white is quite set, the eggs are done. Take them up with a slice, and serve on buttered toast or bread and butter. Fried eggs are done in the same manner, only instead of water, a little fat is used, or a rasher of bacon.

NURSERY PUDDING.—Slice some white bread, without crust; pour scalding milk on it; let it stand until well soaked, then beat it well with four eggs, a little sugar and grated nutmeg. Bake in small cups half filled.

STINGS OF BEES, SERPENTS, &c.—The pure uncarbonated aqua ammonia, when applied to the stings of bees, mosquitoes, serpents, &c., produces instant relief.

RATS WANTED—KID GLOVES GOING UP.—By late advices from abroad, we learn that rat-skins have become very scarce in Paris, and as a consequence, kid gloves have advanced in price! On Monday a large importer and retailer in Broadway advanced the price of ladies' kid gloves from seven to eight shillings per pair. We remember, not many years ago, that the same leathers were sold to the same ladies, by the same lords, at four shillings the pair. And when the price was advanced to five shillings, how "society" stood aghast! How the dear daughter scolded, and the true mamma sighed over the extravagance of the generation! How the kind papa frowned, as he tossed that day's omnibus change into Seraphina's glove-box! But the age was progressive. Year after year, as the entries into "society" became more numerous and dashing, the price of kids increased by the shilling, and the number of rats decreased by the score. Finally the human biped has outstripped the long-tailed quadruped in the race of progressive life; and now the kids are one dollar, and the rats—where are they?—*N. Y. Times*.

Youth's Department.

GARDENING FOR YOUTH.

ANNUALS CONTINUED.

SWEET WILLIAM—*Dianthus barbatus*.—This beautiful flower is well worthy of the care and attention which it is necessary to bestow upon it in order to bring it to any state of perfection. It is the pride of the English florist, and no garden would be considered complete without it. When produced from seed the flowers are seldom double or even handsome, and if cultivated only in this way, is not worth the trouble



SWEET WILLIAM.

bestowed upon it. When a large quantity of seed has been sown, there are sometimes found a few choice double and beautiful plants. In this case they should either be removed far away from the single ones, or else all the latter should be destroyed, except some that are remarkable for their size, color, and smoothness of their edges. We think the latter is by far the more preferable way, because, however careful, it is almost impossible to remove them without their sustaining damage.

THE ROCKET LARKSPUR—*Delphinium ajacis*—was introduced into England, from Switzerland, in 1573. It is not however, thought to be a native of Switzerland. It has been a very general favorite in British gardens for more than two centuries and a half; and, despite the introduction of innumerable new candidates for popular favor, it is still able to hold its place in every good collection of annuals. The Rocket Larkspur belongs to that age when ladies were not those dazzling, bewitching, deceptively fascinating creatures that some of our modern *belles*, superficially educated in all sciences, languages and accomplishments, have proved themselves to be, to the heartfelt sorrow of us susceptible bachelor mortals. She is very sedate in her manners, neat in her person, and, though adorned with the richest dress, it is so compactly put on, that neither JOHN WESLEY, nor the most rigid disciple of GEORGE FOX could accuse her of gaudy habiliments. The old lady, however, likes good living, and does not object to much company if it be of the right kind. Though she has been in this country a great many years, yet she has not yet acquired our national habit of frequent change of resi-



ROCKET LARKSPUR.

dence. In other words, the Rocket Larkspur requires a very rich soil to bring it to perfection. The seeds should be sown in drills where the plants are intended to blossom, as they will not bear transplanting. The compact habit of the plant renders it unnecessary to thin them out very much; they may be allowed to stand an inch and a half or two inches from each other in the rows.

Editor's Table.

CHANGE IN THE PROPRIETORSHIP OF THE GENESEE FARMER.—The Subscriber has purchased the GENESEE FARMER and the RURAL ANNUAL AND HORTICULTURAL DIRECTORY from Mr. JAMES VICK. During the present year he has had the entire editorial management of the paper, and was also connected with it in 1851-2 and 3. The improvements effected the present year in the size, appearance and reading matter of the GENESEE FARMER, have given universal satisfaction to its numerous readers, and this arrangement will enable us to carry out still further our determination to make this Pioneer Agricultural Journal the best, as it certainly is the cheapest, in America.

All debts due Mr. VICK for the *Genesee Farmer*, the *Rural Annual*, and the *Horticulturist*, and for advertising therein, &c., must be paid to the Subscriber.

JOSEPH HARRIS.

READ THE ADVERTISEMENTS.—Our advertising columns this month, contain much of interest to almost every farmer. If you want a Reaper and Mower, read what J. D. WRIGHT & Co. say about their celebrated self-raking machine, and send for one of their pamphlets. If a Threshing Machine, see the advertisement of A. GORDON & Co. Pitts' Machine, as made by them, embodies the latest improvements, and is well and substantially built; the machine itself is too well and favorably known to need any recommendation from us. Do you want Fertilizers, A. LONGETT will supply you with a good article. Do you want to experiment a little with what purports to be a new and valuable cereal, read what Dr. CARDELL says of his Italian Buckwheat. Do you want Trees, Plants, &c., JOHN DONNELLAN & Co. of this city, will furnish you with a good article. If you want pure water—and who does not?—get one of KEDZIE's Rain Water Filters, as made by J. E. CHENEY & Co. of this city. We use one, and can confidently recommend them. The chemical student will of course read the advertisement of C. M. SAXTON & Co., New York. And whether you want anything or not, read the advertisement of WHEELER, MELICK & Co., Albany.

AGRICULTURAL CHEMISTRY.—A correspondent writes: "A word about Agricultural Chemistry. If the ashes of plants form no index as to the food they require, how are we to determine the matter. Shall we go through a system of blind experiments, which, as they are usually conducted, are inconclusive and unsatisfactory? Can science give us no light?" Science founded on experiment can give us light on this subject, but science falsely so called—a mere deduction—cannot fail to lead us astray. Induction is a slow process, but it is the only method by which we can safely advance in such a complex art as that of Agriculture. Experiments, it is true, are often inconclusive, but if properly planned and carried out, they afford the most satisfactory evidence we can possess.

ICHABOE GUANO.—By a mistake of the printer, the price of Ichaboe guano in the advertisement of A. LONGETT, was set down at \$54 per ton. It should be \$40 per ton of 2000 lbs.

H. BENTON has sent us \$3 for eight copies of the *Genesee Farmer*, but did not give his post office.

THE AMERICAN POMOLOGICAL SOCIETY.—SIXTH SESSION.—In conformity with a resolution passed at the last meeting of this National Association, the *Sixth Session* will be held in Corinthian Hall, in the city of Rochester, N. Y., commencing on Wednesday, the 24th day of September next, at 10 o'clock A. M., and will continue for several days.

Among the objects of this meeting are the following:—To bring together the most distinguished Pomologists of our land, and, by a free interchange of experience, to collect and diffuse such researches and discoveries as have been recently made in the science of Pomology—to hear the reports of the various State Committees and other district associations—to revise and enlarge the Society's catalogue of Fruits—to assist in determining the synonyms by which the same fruit is known in America or Europe—to ascertain the relative value of varieties in different parts of our country—what are suitable for particular localities—what new sorts give promise of being worthy of dissemination—and especially, what are adapted to general cultivation.

The remarkable and gratifying progress which has been attained, of late years, in this branch of rural industry, is in no small degree, attributable to the establishment and salutary influences of Horticultural and Pomological Societies. It is, therefore, desirable that every State and Territory of the Union should be represented in this Convention, so that the advantages resulting from this meeting may be generally and widely diffused. Held, as it will be, at a convenient point between the Eastern States and the Western, easily accessible from the South, and also from the Canadas, it is anticipated that the attendance will be larger than on any former occasion, and the beneficial results to the American farmer and gardener proportionably increased.

All Pomological, Horticultural, Agricultural, and other kindred associations of the United States, and of the British Provinces, are requested to send such number of delegates as they may deem expedient; and nurserymen and all other persons interested in the cultivation of fruit, are invited to be present and participate in the deliberations of the Convention.

In order to increase as much as possible the utility of the occasion, and to facilitate business, members and delegates are requested to forward specimens of fruits grown in their respective districts, and esteemed worthy of notice; also, papers descriptive of their mode of cultivation—of diseases and insects injurious to vegetation—of remedies for the same, and also to communicate whatever may aid in promoting the objects of the meeting. Each contributor is requested to make out a complete list of his specimens, and present the same with his fruits, that a report of all the varieties entered may be submitted to the meeting as soon as practicable after its organization.

Packages of fruits and communications may be addressed as follows: "FOR THE AMERICAN POMOLOGICAL SOCIETY, care of W. A. REYNOLDS, Esq., Chairman of Committee of Arrangements, Rochester, N. Y."

Delegations will please forward certificates of their appointment, either to the above, or to the undersigned at Boston.

Gentlemen desirous of becoming members of the Society, and of receiving its Transactions, may do so by remitting to the Treasurer, THOMAS P. JAMES, Esq., Philadelphia, Penn., the admission fee of two dollars for *biennial*, or twenty dollars for *life* membership.

MARSHALL P. WILDER, *President*.

H. W. S. CLEVELAND, *Secretary*.

Boston, Mass., March 15, 1856.

POPULARITY OF THE GENESEE FARMER.—Our esteemed correspondent SAMUEL WILLIAMS, Esq., of Waterloo, N. Y., will, we hope, excuse us for publishing the following extract from a private postscript to his interesting "Notes for the Month."

"Perhaps no paper ever increased faster, at this time, in favor among farmers than the *Genesee Farmer*. It is said to be the cheapest and best paper in the land for the Farmer's true interests. I sent a copy to my friend at Canandaigua, who is making a cottage house, and he ordered your paper the next day. I have heretofore supposed that a purely agricultural and horticultural paper could not be as well sustained as one of a more miscellaneous character; but now the tables are turning, and men begin to tire of sweet milk and to desire meat. Such is progress, even among farmers."

We are happy to inform our friend that our efforts to make the GENESEE FARMER not only the *cheapest* but the *best* agricultural and horticultural paper in the country, are very generally appreciated. Our circulation at this time is within 800 of being double what it was last year, and if orders continue to come in as rapidly as at present, it will be more than double in the course of a few weeks. We have had such an unexpected demand for the FARMER during the past two months, that we run entirely out of back numbers, and were obliged to reprint. Those whose orders were delayed in consequence, will accept this as an apology. We endeavor to attend to orders as promptly as possible.

THE York County (Pa.) *Star*, says: "The *Genesee Farmer* for April, is on our table. Without intending any disparagement to other periodicals of the Agricultural class, we must say that the *Farmer* is the best work of its kind that comes under our notice. It is on our table for the inspection of any who may want a good monthly at only fifty cents a year."

We copy the following from the *Essex Co. Republican*, of April 17th: "No man who lives by farming should be without the *Genesee Farmer*. Only fifty cents a year, and to the Farmer who would make the most of his labor, each number is worth the price asked for a year."

THE Hon. JOHN WENTWORTH in the *Chicago Democrat* of April 15th says: "The *Genesee Farmer* is one of the very best agricultural papers in the United States."

LETTER FROM CANADA WEST.—We give the following extracts from a business letter from R. W. SAWTELL, Esq., of Woodstock, C. W.:

"Last week I saw the March number of the *Farmer* laying on the table of Dr. WATT, a neighbor, and was particularly pleased with the matter it contained, both original and selected, and also the numerous illustrations, which are well got up. This, together with the trifling sum to be paid for it, induced me to ask a few of my nearest neighbors to take it. I asked eight, and every one subscribed. I think I can get a large number of subscribers in this county. It is a rich agricultural county, justly termed the "Garden of Canada," filled with wealthy farmers ready and willing to take periodicals devoted to agriculture and the arts and sciences.

The severity of the winter and the deep snow have been the causes of great destruction among the fruit trees. The mice having found shelter under the snow, those who did not protect their trees last fall, have lost nearly half.

The wheat in this neighborhood looks well, and bids fair for a crop."

THE WHEAT CROP.—In this section, and throughout the great West generally, the young wheat plant never looked better than at the present time. The large body of snow which covered the ground all winter has protected it from the intense cold, which might otherwise have proved injurious.

FRUIT PROSPECTS.—In a recent conversation with AUSTIN PINNEY, Esq., of Clarkson, one of our largest fruit growers, he stated that the prospect for all kinds of fruit never was fairer. Peaches are not hurt in Western New York, and if we have no cold easterly winds, &c., we shall have a large crop.

SEEDS.—We have still a complete assortment of choice vegetable and flower seeds, and will send sixteen packages to any address, pre-paid, for one dollar. It is not too late to sow them.

Notices of New Books, Periodicals, &c.

THE LIFE OF THE REV. ROBERT NEWTON, D. D. By THOMAS JACKSON. New York: Published by Carlton & Phillips, 200 Mulberry street. 1855.

This is the life of an English Methodist minister. The son of a Yorkshire farmer, laboring in his early days on the farm, and developing that strong muscular frame, which in after days enabled him to stand such extraordinary labor, he rose by rapid steps to the very pinnacle of ministerial popularity and influence. In 1840 he was appointed a delegate from the British Conference to the Methodist Episcopal Church in the United States, and the thousands who hung upon his lips on that occasion, will read his life with pleasure, and will be glad that the book contains an excellent likeness, on steel.

Inquiries and Answers.

(D. K.) The *Spirit of the Times* is published weekly in New York city.

W. C., Flushing, Mich.) Your excellent article on the Selection of Potatoes for Seed, was too late for this month, and will be out of season in June. Let us hear from you on other subjects.

(E. LOUNSBURY, Thompson, N. Y.) LIME WITH MANURE.—Quick lime should not be mixed with barn yard manure. The lime sets free the ammonia of the manure and it escapes, and thus materially lessens its value.

(R. T. CROWLAND, C. W.) We can send you the "American Poultry Yard" for \$1. If everything has to be purchased for the hens, the eggs from them would not more than pay for the food consumed. To make hens profitable, keep only as many as will eat up what would otherwise be wasted.

(J. W. KIMBALL, Port Burwell, C. W.) We should think plaster would be beneficial on such land as you describe. Try a little on clover and peas, and you can soon satisfy yourself on the point. On low, wet grass land plaster seldom does much good, but on high, dry meadows, it is frequently very beneficial.

DWARF PEARS.—How much fruit will a dwarf pear tree produce when it has attained its full bearing age and size. W. R.

POLE EVIL.—I have a horse that has the Pole Evil. Will some of your correspondents tell me how to cure it? O. R.—Monticello, N. Y.

THE WHITE THORN.—Having a desire to cultivate a hedge fence of White Thorn, I would ask for information through the columns of the *Farmer* whether the berry of the White Thorn will grow or not, and the proper method and time of planting, whether by sowing broadcast or in drills, and the kind of soil best adapted to it. JOHN LON—Strattonville, Pa.

FENCE FOR LAND LIABLE TO BE FLOODED.—Can any of your correspondents suggest a cheap but substantial fence for the side of a stream that occasionally overflows its banks. I have about three-fourths of an acre on the lower point of an island back of my house, about one-half of which is overflowed nearly every spring. I could use it profitably, but that it requires about forty-five rods of fence, of which one-half is exposed and liable to be carried away every year. J. M. HAMILTON—*Coudersport, Pa.*

THE APPLICATION OF ASHES.—How, when, and on what soils should ashes, leached or unleached, be used? Have you an article discussing this? If so I would like to see it.—S. W.

We have written considerable on this subject, but at our correspondent's request, will again discuss the matter in a future number. But we want facts, experiments, and the experience of observing practical farmers to enable us to come to any definite conclusion on this or any other practical question.

DRAINING BOGGY LAND.—I have about two acres of deep boggy land, with springs around the banks, which I wish to drain. How deep should the drains be cut, and how far apart. What sized tile is best, and should any thing be put on the top of the tile before filling in the ditch? What kind of grass will do best on this land? If you will answer these questions, you will favor—A SUBSCRIBER, *n Canada West.*

We should be glad if some of our experienced correspondents would answer the above.

GUANO FOR CORN.—An answer to the following questions will greatly oblige some of your subscribers, viz:

1. Where can Guano be obtained, and what is the price?
2. Will it answer equally well on all soils, such as alluvial or prairie soil, sand or sandy loam, clay, gravel or shelly limestone?
3. What is the method of applying it in each case above?
4. If applied after the corn is up, will it do as well?
5. Do you think it would pay for itself and produce profit equal to the interest of money for the extra expense?

An answer to each of the above will benefit your obliged servant. P. Q. R.—*Sandusky, Ohio.*

1. See the advertisement of A. LONGETT, of New York, in this number.
2. We cannot answer this question.
3. The best method of applying it to corn, potatoes, &c., is to spread it over, say a square foot where the hill of corn or potatoes will be. But it is absolutely essential that it be well incorporated with the soil, or that there be at least an inch of soil between the guano and the seed; for if the seed comes in contact with the guano, it will be injured or destroyed. An ounce of guano to each hill would be about the proper quantity. But although this method of application gives the best results when sufficient care is exercised, yet the *safest* method, and one requiring less labor—an important consideration in this country—is to sow the guano broadcast, and harrow it in before planting the corn. From 200 lbs. to 400 lbs. per acre is the usual quantity.
4. It would doubtless be beneficial, but would not "do as well" as when applied at or before the time of planting.
5. In Ohio, where the land is generally rich enough, if well tilled, to produce good crops of corn without much manure, and where corn is cheaper than in the Atlantic States, we do not think guano can be profitably used on corn. On soils capable of producing an ordinary crop of corn—say 25 bushels of shelled corn per acre—by good tillage alone, we do not think the application of guano will be profitable unless the corn sells for more than fifty cents per bushel. On poor soils, and when corn commands a dollar a bushel, we think the judicious use of good Peru-

vian guano will pay. It will be evident to any one who will give the subject a moment's thought, that the economy of using guano, or any other fertilizer, is regulated by the price of the produce. And the same is true of under-draining, and all other improved processes of agriculture. It is strange that this simple fact is overlooked by those who are constantly holding up to our imitation the practice of British farmers. It may be very profitable for English farmers to expend large sums for the production of wheat, which brings three dollars a bushel, but it does not follow that it will be equally profitable in a country where we cannot calculate on getting more than one dollar per bushel.

ADVERTISEMENTS.

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

FARMERS, YOUR ATTENTION IS ASKED TO HYDE & WRIGHT'S PATENT HORSE HOE OR CULTIVATOR PLOW.

DESIGNED and better adapted than any other implement for hoeing Corn, Broom Corn, Potatoes, Cotton, or any other crop requiring the use of the Horse or Hand Hoe. It has proved itself the most valuable implement yet invented for the purpose intended. It has been in use in Western New York for the past three years, hundreds of them having been sold on trial and none returned. Its great utility has been demonstrated in the fact that one day to the acre, with a man and horse is all the expense of cultivating and hoeing a field of corn for the season. If used as directed, hand hoeing, in nine cases out of ten, may be entirely dispensed with. We have numerous certificates of the most satisfactory character, which we would be happy to show the public. We extract from a letter received from one of the largest and most influential farmers in our State, the following:

"Nestoria Farm, Mottville, N. Y.
MESSRS. A. GORDON & Co.—I received the Horse Hoe, which I have tried, and am much pleased with it, and my farmer says it is the very best thing he ever saw. I have invited my neighbors to come and see it, and have no doubt it will be adopted generally. I congratulate you as the manufacturers of so important and useful an implement.
Yours, ALFRED COBB."

Farmers may rely on realizing their best expectations from the use of the Horse Hoe. Price, \$8—if ground and polished, \$8.50. We are now making, and have steel ordered for 4,000. No Farmer should be without one. They are having an unlimited sale. Call upon or address
ALEX. GORDON & CO.
May 1—24. 68 South St. Paul street, Rochester, N. Y.

KEDZIE'S RAIN WATER FILTERS. MANUFACTURED BY

J. E. CHENEY & CO., ROCHESTER, N. Y.

THESE Celebrated Filters have been fully tested for many years in almost every State in the Union, and the demand is constantly increasing. There are five sizes, made of oak, non-bound tubs, with reservoirs inside, from which can be drawn about 100 gallons in twenty-four hours, for all domestic uses.

The most impure Rain, River or Lake water by this means becomes pure, clear as crystal, and without taste or smell. In this condition only is water fit for family purposes, as a means of promoting the general health, and as a preventive of cholera, and other diseases induced by the use of impure water. They are portable, durable and cheap, and are not excelled by any other filter known. Address
May 1.* J. E. CHENEY & CO., Rochester, N. Y.



AGRICULTURAL CHEMISTRY.

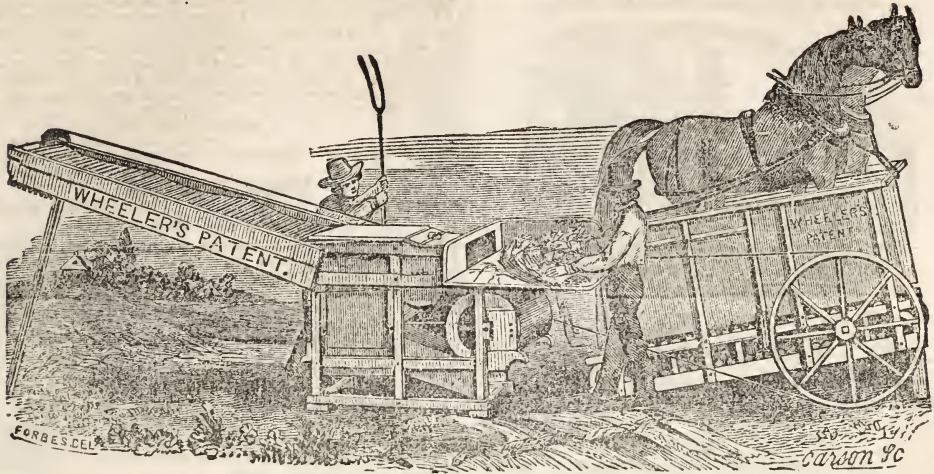
EVERY Farmer, in these days of Progress, must know something of this attractive Science, and it is so simplified by our excellent Text Books, as to be easily understood by the Farmer and his children.

The following are the best, and will be sent by mail, free of postage, on receipt of price:

Johnston's Agricultural Chemistry,.....	\$1.25
Brown's Field Book of Manures,.....	1.25
Johnston's Elements of Agricultural Chemistry,.....	1.00
Dana's Muck Manual,.....	1.00
Norton's Elements of Scientific Agriculture,.....	60
Nash's Progressive Farmer,.....	60
Chemistry made Easy,.....	25

C. M. SAXTON & CO., Agricultural Book Publishers,
May—14. 140 Fulton street, New York.

NEW YORK STATE AGRICULTURAL WORKS. BY WHEELER, MELICK & CO.



DOUBLE POWER AND COMBINED THRESHER AND WINNOWER, IN OPERATION.

WE are Manufacturers of Endless Chain Railway Horse Powers, and Farmers' and Planters' Machinery for Horse Power use, and are owners of the Patents on, and principal makers of the following valuable Machines:

WHEELER'S PATENT SINGLE HORSE POWER, AND Overshot Thresher with Vibrating Separator.

This is a *One Horse Machine*, adapted to the wants of medium and small grain growers. It separates grain and chaff from the straw, and threshes about 100 bushels of wheat, or twice as many oats per day, without changing horses—by a change, nearly double the quantity may be threshed. **Price \$123.**

WHEELER'S PATENT DOUBLE HORSE POWER, AND Overshot Thresher with Vibrating Separator.

This Machine is like the preceding, but larger and for two horses. It does double the work of the Single Machines, and is adapted to the wants of large and medium grain growers, and persons who make a business of threshing. **Price \$160.**

WHEELER'S PATENT DOUBLE HORSE POWER, AND Combined Thresher and Winnower.

(Sawn in the Cut.)

This is also a Two Horse Machine; it threshes, separates the grain from the straw, and winnows it at one operation, at the average rate of 150 bushels of wheat, and 300 bushels of oats per day. In out door work, and for persons who make a business of threshing, it is an unequalled machine. **Price \$245.**

ALSO CLOVER HULLERS, FEED CUTTERS AND SAWING MACHINES.

Our Horse Powers are adapted in all respects to driving every kind of Agricultural and other Machines, that admit of being driven by Horse Power, and our Threshers may be driven by any of the ordinary kinds of Horse Powers in use—either are sold separately.

To persons wishing more information and applying by mail, we will forward a circular containing such details as purchasers mostly want—and can refer to gentlemen having our machines, in every State and Territory.

Our firm have been engaged in manufacturing this class of Agricultural Machinery 22 years, and have had longer, larger, and more extended and successful experience in this line than any other House.

All our Machines are warranted to give entire satisfaction, or may be returned at the expiration of a reasonable time for trial.

Orders from any part of the United States and Territories or Canada, accompanied with satisfactory references, will be filled with promptness and fidelity, and machines securely packed will be forwarded according to instructions, or by the cheapest and best routes.

May 1, 1856—1t.

WHEELER, MELICK & CO.,

Albany, N. Y.

CE TO MAKE MONEY! PROFITABLE AND HONORABLE EMPLOYMENT!

THE subscriber is desirous of having an agent in each county and town of the Union. A capital of from \$5 to \$10 only will be required, and anything like an efficient, energetic man can make from three to five dollars per day; some of the Agents are realizing twice that sum. Every information will be given by addressing, with a stamp to pay return letter.

May 1—1*

WILLIAM A. KINSLER,
Box 1223 Philadelphia, Pa., Post office.

FOR SALE.

HAVING to devote my time to other business, I have determined to sell several Farms, now in cultivation under my own direction, and also a Grist Mill and Saw Mill. The mills are situated about six miles from the county seat in a thickly settled portion of the country, on never failing streams, and healthy locations. There are two run of stones in the Grist Mill, together with all the machinery for manufacturing flour, buckwheat flour, corn meal, &c. The mill is 60 by 40 feet, three stories high, with a 16 foot wheel. The Saw Mill is run by a submerged center discharging wheel, cast gear; and the Mills, within 80 feet of each other, are run by different streams, and were built in 1851. There is attached to the mills about 200 acres of land, part of which is in cultivation in grain and grass. There are four tenements on the land, rented out; three of them, without any land, pay \$100. The mills are under my own direction, and the miller rents the farm, and pays crop rent. The mills rented last year for \$400. There is a large portion of bottom land on this farm which is valuable. The Alexandria, Loudoun & Hampshire Railroad passes within 100 yards of the mill, where there is to be a station, &c.

I also have a Farm of 100 acres adjoining the county seat, well improved, good house of brick, orchards, well watered, and all the necessary outbuildings. The Menassas Gap Railroad passes through the village, and also a turnpike road to Washington and Alexandria, which are distant about 15 miles. I have also another Farm of 100 acres, within three-fourths of a mile of the county seat, one half of which is in timber, and the other in cultivation. I am building a house on this, which will be finished by fall. I have also one other Farm of 120 acres, lying about four miles from the county seat, in cultivation by a Northern man, who has resided on it three years.

I will sell any or all of these Lands, &c., on reasonable terms. Persons desiring further information, can address the undersigned at Fairfax Courthouse, Va., who will give information, if desired, relative to his own or any other lands in this or the adjoining counties.

May 1, 1856—4t.

GEO. W. HUNTS, JR.

LAWTON BLACKBERRY.

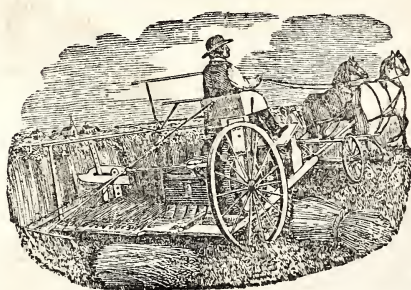
THIS is a new and entirely distinct variety, and not, as some suppose, the "New Rochelle Blackberry" improved by cultivation, (the plants which abound in that neighborhood being no better than those growing wild in every other part of the country.) It differs in shape, size and quality from every other known variety. It is perfectly hardy, enduring the severest winters without protection. The fruit is delicious, having small seeds in proportion to its size; it is a prodigious bearer, and in good soil, in any locality, the stalk, leaf, flower and fruit will grow of mammoth proportions. It delights in moist soil, and will produce abundantly in the most shady borders of the garden, and even under fruit trees.

ORDERS FOR PLANTS.—All orders for Plants will be registered and supplied in rotation, (deliverable in New York free of charge, for packages, with full directions for planting and cultivation,) in the Spring, until the second week in May; Autumn, from the second week in October as long as the weather permits. Price, in packages of half a dozen, \$3; one dozen, \$5; fifty plants, \$15; one hundred, \$25. The money should accompany the order.

May 1—1t.

WM. LAWTON, 54 Wall St., New York,
or, New Rochelle, N. Y.

ATKINS' AUTOMATON, OR
SELF-RAKING REAPER AND MOWER.
 THE BEST MACHINE IN USE.



1 (the first) used in 1852.
 40 used successfully in 1853.
 300 in twenty different States in 1854.
 1200 in all parts of the Union in 1855.
 3000 building for the harvest of 1856.

THERE are six good reasons for this unparalleled increase and great popularity: 1st. It is strong and reliable, and easily managed. 2d. It saves the hard labor of raking. 3d. It saves at least another hand in binding. 4th. It saves shattering by the careful handling in raking; besides, the straw being laid straight, it is well secured in the sheaf, and does not drop in the after handling, and the heads are not exposed in the stack, so that the grain saving even exceeds the labor saving. 5th. It is a good mower, being one of the most convertible machines in use. 6th. It has a knife that does not choke.

Its other excellencies, too numerous to mention here, are fairly given in the circulars. Its intrinsic worth is also attested by the award (mostly in only 3 years) of

OVER SEVENTY FIRST PREMIUMS!

Two First Premiums at the New York Crystal Palace, the "Scott Legacy Medal," Franklin Institute, Pa., &c., &c.

TERMS.—REAPER AND MOWER, \$200—\$75 on receipt of Machine; \$75 September 1st; \$50 December 1st. REAPER only, \$175—\$75 on receipt of Machine; \$50 September 1st; \$50 December 1st. \$10 added for longer credit. 10 per cent. interest from May 1st, if payments are not promptly made. Discount at 12 per cent. per annum for cash in advance, besides interest.

Farmers wishing these celebrated Reapers and Mowers for the next harvest, must send in their orders soon to the following Agents:

E. D. HALLOCK, No. 2 Agricultural Buildings, Rochester.
 ENSIGN & HESTON, Batavia, Genesee Co.
 Z. W. SMITH & Co., Honeyee Falls, or NORTON B. SMITH, Traveling Agent for Livingston and Ontario counties.
 A. D. AYERS, Romulus, Seneca Co.
 Or J. D. STAFFORD, General Agent for the State of New York, Brockport, Monroe Co.

Local Agents wanted in every county in the State, to whom a liberal commission will be given. Apply to J. D. Stafford as above. Order early, if you would not be disappointed.

Pamphlets giving impartially the opinions of Farmers, together with orders, notes, &c., mailed to applicants, and prepaid.

Write to us at Chicago, (Ill.,) Dayton, (Ohio,) or Baltimore, (Md.,) which ever is nearest to you.

J. S. WRIGHT & CO.,

"Prairie Farmer" Works, Chicago, May 1—3t.

ITALIAN BUCKWHEAT.

I WISH to call the attention of Farmers to a new cereal which I obtained in 1854, from a gentleman who discovered a single plant of it in the Northern part of this State. It grows four or five feet high, each seed produces from one to six branches, which come from the soil; at the top of each there are from one to three hundred branches, from one inch to one foot in length, all loaded with very heavy grain, which is oval and shining, and very beautiful. The straw is nearly equal to hay, and when first cut, yields to the palate a great amount of saccharine. The seed weighs about 60 lbs. per bushel, and for horses, cattle, pigs, or poultry, is equal to corn. The flour from it, when properly prepared, makes a rich and beautiful cake for the table. It is well authenticated that it will produce from 60 to 80 bushels per acre, and some tell of its yielding a still greater amount. It is unquestionably one of the most productive and profitable cereals ever raised in this country. One peck is an abundance of seed per acre. It should be sown not earlier than the 15th of June, nor later than the 10th or 15th of July.

I have some of the seed to dispose of. Price \$2 per peck. It can be sent by Express to any part of the country. For further particulars see an article in the *Onondaga Gazette*, of April 28th, 1856, or address.

W. CARDELL,

May 1—2t.

Baldwinsville, Onondaga Co., N. Y.

ATTENTION THRESHERS!

PITTS' PREMIUM SEPARATORS AND DOUBLE PINION HORSE POWERS.

WE call attention to the fact that we are now building a better Threshing Machine in all parts, than has ever been built in this city. With increased capacity, far more durable and substantial, with the latest improvements by John A. Pitts, with our new style of Straw Carriers, more portable than any hitherto made. We also make the latest improved, all iron Power. We invite all who intend purchasing, to call and examine our machines, and we are sure they will buy from us. Our machines will speak for themselves.

ALEXANDER GORDON & CO.,

Successors to JOHN A. PITTS,

May 1—2t.

68 South St. Paul street, Rochester, N. Y.

EMERY BROTHERS,

PROPRIETORS OF THE ALBANY AGRICULTURAL WORKS,
 WAREHOUSE AND SEED STORE.

HAVE constantly on hand a full, new and complete assortment of the most approved Farming Implements and Machines. Also, Grain, Field, and Garden Seeds, all fresh and true to name and kind. The farming public will find their interest promoted by making an examination of qualities and prices at the above establishment before purchasing elsewhere.

Sample and Sale Rooms, No. 52 State street, corner of Green St., Albany, N. Y.

May 1—1t.

FOR SALE.

THE FINEST SPORTING PROPERTY IN CANADA.

THE place is known as "Ryerson's Island," and contains 191 acres per deed—is situated about one mile east of Long Point, in Lake Erie, and about eight or ten miles from Port Rowan and Normandale in Norfolk county.

The soil is very rich. Corn, cabbage, tomatoes, potatoes, and almost all vegetation is of the most luxuriant growth, and can be in market nearly three weeks before the same are produced on the main land. A small portion is under cultivation. It offers great advantages for raising Cows, Oxen, Sheep, and all kinds of Stock, as an extensive Grazing or Market Farm. Twenty to thirty or forty tons of excellent hay can be had just by cutting and curing. Wild Grapes are very abundant and large. Every spring and fall it abounds with WILD FOWL—Wild Ducks innumerable, of almost every variety—one gentleman shot and bagged 86 in part of one day last year—Geese, some Swans, Plovers in flocks, Woodcocks, Pigeons, etc., all summer. Turtles of different kinds and size are very plentiful. Deer, Coons, Muskrats, etc., are in great numbers on Long Point. THE FISHING ADVANTAGES ARE STILL GREATER, either with hook and line, nets, or otherwise. The fish are caught in great quantities, and are very large and fine. The delicious Muscalunge, weighing from 50 to 40 pounds; the Sturgeon, from 75 to 100 pounds; the Cat and White fish, and the Herring are very plentiful. THE PLEASURE BOAT is a great luxury here, being just far enough from the main shore not to be annoyed. It can be made a superior place of PUBLIC RESORT, being known to large numbers of sporting gents, all along from New Orleans, Canada, New York, etc. It is very HEALTHY, and can be reached from different points along the lake by Steamboat, which leaves Buffalo in the evening, and arrives early next morning; there are also Railroad advantages approaching. Terms very reasonable. Apply to

RICH. RICHES, Ryerson's Island,

Apr.—2t.

Normandale P. O., Canada West.

PRICES OF FERTILIZERS FOR SPRING, 1856.

PERUVIAN GUANO, No. 1, with Government brand and weight on each Bag,	per ton of 2,000 lbs.	\$54.00
Ichaboe Guano,	"	40.00
Improved Superphosphate of Lime,	"	45.00
Bone Dust, Ground,	per bbl.	\$2.25 to 2.50
" Turnings,	"	2.37 to 2.50
" Sawings,	"	3.00
" Mixed fine ground,	"	2.75 to 3.00
Plaster of Paris,	"	1.00 to 1.25
Poudrette,	"	1.50 to 1.75
Tea-few,	per ton of 2,000 lbs.	35.00

There is an inferior grade of Peruvian Guano with the Government brand upon the bags, which can be detected by the figure 2 under the weight mark.

A. LONGETT,

mar—3t 34 Cliff street, corner of Fulton, New York.

NOTICE.

MESSRS. JOHN DONNELLAN & NEPHEWS, of the Rochester and Handford's Landing Nurseries, having made some alterations in their firm, and increased their Nursery Grounds, have also changed the above address and designation, and in future their business will be carried on under the title of JOHN DONNELLAN & CO., Rochester and Lake Avenue Commercial Nurseries.

The location is barely one mile north of the city limits, and four miles from Lake Ontario Steamboat Landing, affording convenient facilities for shipment of Trees, &c., either by Railroad or water.

All orders for Trees and Plants will be filled and delivered promptly to the care of such forwarding companies as may be directed. Catalogues furnished on application.

Apr. 1856.—2t.

JOHN DONNELLAN & CO.

BOOKS FOR THE FARMERS!

FURNISHED BY THE PROPRIETOR OF GENESEE FARMER.

The Cow, Dairy Husbandry, and Cattle Breeding. Price 25 cts.
 Every Lady her own Flower Gardener. Price 25 cents.
 The American Kitchen Gardener. Price 25 cents.
 The American Rose Culturer. Price 25 cents.
 Prize Essay on Manures. By S. L. Dana. Price 25 cents.
 Skinner's Elements of Agriculture. Price 25 cents.
 The Pests of the Farm, with directions for extirpation. Price 25 cents.
 Horses—their Varieties, Breeding, Management, &c. Price 25 cents.
 The Hive and Honey Bee—their Diseases and Remedies. Price 25 cents.
 The Hog—its Diseases and Management. Price 25 cents.
 The American Bird Fancier—Breeding, Raising, &c. 25 cts.
 Domestic Fowls and Ornamental Poultry. Price 25 cents.
 Chemistry made Easy for the Use of Farmers. Price 25 cts.
 The American Poultry Yard. The cheapest and best book published. Price \$1.
 The American Field Book of Manures. Embracing all the Fertilizers known, with directions for use. By Browne. \$1.25.
 Buist's Kitchen Gardener. Price 75 cents.
 Stockard's Chemical Field Lectures. Price \$1.
 Wilson on the Cultivation of Flax. Price 25 cents.
 The Farmer's Cyclopaedia. By Blake. Price \$1.25.
 Allen's Rural Architecture. Price \$1.25.
 Phelps's Bee Keeper's Chart. Illustrated. Price 25 cents.
 Johnston's Lectures on Practical Agriculture. Paper, price 25 cents.
 Johnston's Agricultural Chemistry. Price \$1.25.
 Johnston's Elements of Agricultural Chemistry and Geology. Price \$1.
 Randall's Sheep Husbandry. Price \$1.25.
 Miner's American Bee-Keeper's Manual. Price \$1.
 Dadd's American Cattle Doctor. Complete. Price \$1.
 Fessenden's Complete Farmer and Gardener. 1 vol. Price \$1.25.
 Allen's Treatise on the Culture of the Grape. Price \$1.
 Youatt on the Breeds and Management of Sheep. Price 75 cts.
 Youatt on the Hog. Complete. Price 60 cents.
 Youatt and Martin on Cattle. By Stevens. Price \$1.25.
 The Shepherd's own Book. Edited by Youatt, Skinner and Randall. Price \$2.
 Stephens's Book of the Farm; or Farmer's Guide. Edited by Skinner. Price \$4.
 Allen's American Farm Book. Price \$1.
 The American Florist's Guide. Price 75 cents.
 The Cottage and Farm Bee-Keeper. Price 50 cents.
 Hoare on the Culture of the Grape. Price 50 cents.
 Country Dwellings; or the American Architect. Price \$6.
 Lindley's Guide to the Orchard. Price \$1.25.
 Gunn's Domestic Medicine. A book for every married man and woman. Price \$3.
 Nash's Progressive Farmer. A book for every boy in the country. Price 50 cents.
 Allen's Diseases of Domestic Animals. Price 75 cents.
 Saxton's Rural Hand-books. 2 vols. Price \$2.50.
 Beattie's Southern Agriculture. Price \$1.
 Smith's Landscape Gardening. Containing hints on arranging Parks, Pleasure Grounds, &c. Edited by Lewis F. Allen. Price \$1.25.
 The Farmer's Land Measurer; or Pocket Companion. Price 50 cents.
 Buist's American Flower Garden Directory. Price \$1.25.
 The American Fruit Grower's Guide in Orchard and Garden. Being the most complete book on the subject ever published. Price \$1.
 Quinby's Mysteries of Bee-Keeping explained. Price \$1.
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November, 1855.

Rochester, New York.

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HINTS FOR THE SEASON.

By the time this number reaches you, kind reader, your corn is probably not only planted but out of the ground, and ready to receive a small handful of ashes and plaster on each hill. If, however, owing to wet land, the lateness of the season, or the multiplicity of those things which *must* be attended to early in the spring or not at all, you have not been able to finish all your planting, do not give up the attempt before the 10th of June. Last year, in this vicinity, at least one excellent crop of corn was raised from seed planted on the seventeenth of June.

If the ground can be got into fine condition, we should not hesitate to plant corn in this vicinity the first, or even the second week of June. Get a good variety of corn, and soak it in warm water for about 24 hours, and if the soil is fine, moist and warm, the plants will be up and growing vigorously in a few days. Some years ago, one of our correspondents stated that he had found great advantage in soaking seed corn in water containing a little carbonate of ammonia, (hartshorn.) We do not doubt it; but the idea that the small quantity of ammonia absorbed by the seed could have any great fertilizing effect, is hardly consistent with our ideas of vegetable nutrition and growth. The hartshorn probably proved beneficial because it softened the woody fibre of the seed, and thus accelerated the absorption of water and oxygen, the two great agents in the promotion of that decomposition of the elements of the seed which always precedes germination. It is quite probable that the addition of a little lye from wood ashes would have the same effect, though ammonia may be the better alkali. Last year an intelligent nurseryman of this city planted some peach pits late in the season; and wishing to forward them as much as possible, he soaked the pits in water containing a small quantity of potash. The experiment was in every way satisfactory. The trees came up nearly as soon, and did quite as well as those planted some weeks earlier. We have little doubt, therefore, that it would prove an advantage to soak corn in an alkaline water for some hours before planting, at this season. We would certainly not smear it with tar, as it is well known that this retards germination—probably from forming round the seed a coat impervious to water and air.

MILLET.—After you have got through corn planting, do not forget to sow a few acres of millet. It will grow on land which is so wet in the spring that it cannot be got ready in time to plant corn. In fact,

low, rich, loose, mucky land, abounding in organic matter, is just the soil for millet. Let the land be plowed, and harrowed fine before sowing the seed. Then sow, broadcast, from one to two pecks per acre, and roll or brush harrow it in; or if you have a light pair of harrows, pass them over the field. If you have any places in your wheat fields where the wheat is nearly all killed on account of stagnant water, or the mucky nature of the soil, harrow or rake in a little millet seed. See article on "Millet for Soiling and for Fodder," in our April number.

WHITE BEANS.—We trust that our article on the cultivation of the White Bean, in the March number, has induced some of our readers to pay more attention to this crop. The last week in May is probably the best time to plant, but there are many instances recorded where white beans have done well planted the first or even the second week in June. If you have not planted, therefore, let us again urge you to do so. It is not too late. Give them a trial, and see if you do not find them a profitable crop, and one which, while it does not impoverish the soil, leaves it in good condition for the following wheat crop. Plant in rows two and a half feet apart, and eighteen inches to two feet in the rows, six seeds in a hill. If the seeds were soaked for from 12 to 24 hours in warm water, and then dried by mixing them with plaster, they would soon germinate. As soon as the rows can be seen, set the cultivator to work, and by its frequent use, and a little hand hoeing, keep the crop clean, and you will be abundantly repaid for all your labor.

POTATOES.—We are not in favor of planting potatoes as late as the first or second week in June, as is frequently practised, if not recommended, by many good farmers. The crop is seldom as large or the tubers as sound from late as from early planting. Still there are instances where good and sound crops have been obtained from potatoes planted as late as the middle of June. The cool, moist climate of England is much more favorable for the cultivation of potatoes than the short, hot, dry summers of this country. This fact should teach us to make the soil cool and moist for potatoes. In rather heavy soil, deep and thorough pulverization before the potatoes are planted, and the frequent use of the horse hoe between the rows till the tops cover the ground, are the best means to secure this end. On very light, sandy soils, nothing is so good as mulching. Anything that will shade the soil answers the purpose. But do not try to shade the ground by letting the weeds grow! We have met with persons ignorant enough to suppose

that grass and weeds kept the ground cool and moist. Nothing can be more erroneous. All plants take up large quantities of water from the soil and evaporate it through their leaves. Dig down about six inches into a grass field, and into a well worked fallow, and you will find that the soil of the grass field is much drier than that of the fallow. The grass has pumped up the water and it has evaporated into the atmosphere. All weeds do the same, and if we would keep our potato land cool and moist, it is absolutely necessary that all weeds be destroyed.

With potatoes, as with all other hoed crops, the labor of weeding is much lessened by attending to it as early as possible. As we stated in our article on the Cultivation of Potatoes, in the March number, harrowing the ground a few days before the plants are expected to break through kills or checks the weeds, and thus enables us the sooner to distinguish the rows of potatoes, and to use the cultivator. The harrow should not be too heavy. A light harrow used with care will pull up very few potatoes. If it is a double harrow, the inside harrow should be lifted up in turning, and it is better to harrow round a strip of land so as to avoid turning too short. Some farmers use a bush harrow, and this while it checks the weeds, does not pull up any of the potatoes. On light sandy soils, a table-spoonful of plaster scattered on the hill soon after the potatoes make their appearance, will generally be found beneficial.

SUMMER FALLOW.—Except on heavy, clay land, we should seldom resort to a summer fallow for cleaning the soil and preparing it for a wheat crop. By summer fallowing we mean the old practice of breaking up in the fall or early in the spring, cross plowing during the summer months, and plowing again a few days previous to sowing the seed, with the frequent use of the harrows and roller during the summer. On heavy clays, such a system may be necessary, and unquestionably gives good results, but it is very expensive. In Western New York, this system is becoming less and less common every year. Before the introduction of turnip culture, and the invention of Croskill's Clod Crusher, it was the general method of preparing the land for wheat in Great Britain. At the present time it is seldom resorted to. There is far less necessity for it in this country than in England. Our severe winters and hot summers have such a pulverizing effect on the soil, that the American farmer can get his soil into good condition for wheat, or any other crop, with far less labor than is required in England. A few years ago we were breaking up a heavy piece of sod with four horses, in the middle of June, when we were visited by an experienced English agriculturist. We were turning over a furrow seven inches deep, and fifteen to eighteen inches wide, when the following conversation took place:

"What are you going to do with this piece?"

"Sow it to wheat."

"When?"

"The last week in September."

"You mean next September, twelvemonth?"

"Not at all; I shall put on a pair of heavy harrows in about a fortnight, as soon as the grass begins to start through the furrows, and so smother up the grass and kill it, repeating the process as often as there is any appearance of weeds; and about the middle of September plow it again, and harrow and roll it till I get what you English farmers call 'a good seed bed.'"

"If you do I shall be very much mistaken. I have just such land as this in England; and I 'pin-fallow' it in November, and plow it again in March, and go over it with a roller and harrows, (the harrows being fastened to the roller, and thus making it press harder on the ground,) then plow again in June or July, and roll and harrow as before, generally two or three times, and in October, just before sowing, I plow it up into lands four yards wide; and though my land is well underdrained—which I imagine is not the case with yours—I frequently fail (especially if we should happen to have a wet summer,) of getting as good a seed bed as is desirable."

"Happen to have a *wet summer*! If you should 'happen' to have a dry one, would it not be more remarkable?"

"At it again? Americans are remarkably fond of calumniating our English climate. But never mind; what I tell you is true, and if you ever get this land fit to sow to wheat—I mean, of course, what *we* should call fit—I will acknowledge that this is a *great country*, and that 'Americans can lick all creation,' at least in summer fallowing."

Had this land been so treated in England, we believe, with our friend, that "no implements known in Europe," or America either, could have "pulled it to pieces," and produced a fine tilth in so short a time. But the fact is that we have a great advantage over the British farmer in preparing our land for wheat, and this very field "tumbled all to pieces" at the next plowing, and produced a good crop of wheat.

With our superior climate for pulverizing the soil, we hazard nothing in asserting that if long or summer fallows can be dispensed with in England on all but the heaviest clays, they certainly are not indispensable in this country.

As we have said before, the old fashioned summer fallow is becoming less and less common every year among the wheat growers of Western New York—and there are none more intelligent, as a whole, on this side of the Atlantic. Instead of breaking up the land in the fall, or early in the spring, it is allowed to produce a crop of clover, which is turned under when in bloom, about the middle of June. The land is not plowed afterwards, but is harrowed and cultivated several times during the summer, to kill the grass and pulverize the soil. In this way the land is got into excellent condition at much less labor than by repeated plowings. If the land is rich enough, the clover may be made into hay instead of being plowed under. If this is done, we should wait till the aftermath had obtained considerable growth, especially on light soil, before plowing. We have seen a good crop of clover turned under the last week in August, and the field sown to wheat with good results. On sandy land, free from weeds and grass, this plan can be adopted with advantage. In England, nine-tenths of the wheat crop is raised on a clover sod turned over in September and October immediately before sowing.

RAISE YOUR OWN CLOVER SEED.—Every farmer should grow his own clover seed. There are few things that a farmer can less afford to be sparing of than clover seed. If he grows his own, he will seed down more land than if he has to purchase it from his more enterprising neighbor, or the village seed store. Every farmer—and more especially every wheat grower—should select a piece of his cleanest clover, cut it early in June, and then allow it to go to seed. If the land is in good heart, and clean,

nothing more is required; if poor, 150 to 200 lbs. of good Peruvian guano per acre, sown broadcast as soon as the first crop is removed, during showery weather, will be found a beneficial, and we have little doubt, a profitable application. Plaster increases the foliage of the plants, but it is said, retards the ripening of the seed. Four bushels of clean seed per acre is a fair average crop; but eight bushels may be easily grown by cutting the first crop early, or by eating it off by sheep until the middle of May or first of June. It is important to have the clover as early as possible, since it is frequently injured by frosts in the autumn. After the seed is matured, however, frost does not hurt it; and now that we have several excellent machines for taking off the heads of clover seed, thus avoiding the expense and labor of curing the clover in cool, wet weather, it may be left out late in the fall without any loss or inconvenience.

CULTIVATION OF BUCKWHEAT.

It seems unnecessary to write anything in regard to the cultivation of buckwheat.

Throughout the Eastern, Middle and Western States and the Canadas, it grows almost spontaneously, and it would seem that the only thing requisite to secure a crop is to scatter the seed. It sometimes receives injury from early frosts, but as a general rule, no crop is better adapted to the short, hot summers of the Northern States. Botanically it is not a *cereal*, but its natural character and composition closely resemble this useful order of plants. Except millet, no plant used as food for man can be sown so late in the season; and this to the farmer is one of its most valuable qualities. It is frequently sown after a crop of rye has been taken off the ground, and thus even in the comparatively short seasons of the north-eastern States and the Canadas, two crops used as food for man can be obtained from the land the same year—a result seldom or never obtained in the long, damp seasons of the British Isles.

Buckwheat is a plant known in almost every part of the world. It is supposed to have been first grown in Europe about the time of the Crusaders, and the French called it *ble Sarrazin*. In China, Japan, and Russia, it forms a large portion of the food of the inhabitants, and in Switzerland, the south of France, and Flanders, it is cultivated to a considerable extent. It has been grown in England for upwards of three hundred years, but the cool climate of England is not well adapted to its perfect elaboration, and hence it is not very extensively cultivated. In no country does it flourish better than in the United States—no where else do we find the luxury of hot buckwheat cakes so frequently upon the breakfast table.

Buckwheat will grow on the poorest of sandy soils, and it has been extensively cultivated for the purpose of plowing in as a manure. Nevertheless, we are inclined to consider buckwheat as an exhausting crop. EMERSON, in the *Farmers' Encyclopedia*, says: "It is generally thought to be a severe crop upon land, and for this reason it is seldom sown upon highly improved ground. Rough and hilly districts are considered peculiarly favorable to the culture of buckwheat, which is admirably adapted to subdue new or wild lands."

MR. BALLINGAL, in the *Transactions of the Highland Society*, has given an account of his experiments with it upon a clay loam recently limed; from the

results of which he warned his brother farmers that it is "needless to attempt to grow it upon damp soils, or to expect full crops upon lands exhausted by over cropping." We certainly cannot recommend the cultivation of buckwheat for plowing under as a fertilizer. Clover is by far a better crop for this purpose. If the soil is too poor to grow clover, we should expect better results (in the Middle States, at least,) from the white lupine, or some other leguminous plant.

"The mode of culture," says an experienced writer, "has varied considerably since my recollection. It was formerly the custom to reserve the poorest land for buckwheat. It was considered a great reproach to land to say it would produce only buckwheat. The practice was to break up sward land early in the spring, and let it lie until about seeding time, and then cross plow and seed. The practice now among good farmers generally, is to sheep the fields intended for the crop as long as can be done before sowing, and plow but once." The time of sowing varies in this State from the 20th of June to the 4th of July. It is sometimes sown as early as the 10th of June, and as late as the 15th of July. If sown too early it is liable to blast, and if too late it is frequently injured by frost.

When grown for the grain, a bushel of seed to the acre is usually sufficient, and if the ground is rich, it is not safe to sow so much, or it will run too much to straw. It flourishes best in a mellow, dry, loose sandy soil. "No crop," says G. W. DURANT, in the *Albany Cultivator*, "will feel manure of any kind, or in any state so quick as buckwheat. Barn-yard manure, whether green or rotted, ashes, lime, plaster, all seem to produce a wonderful effect when applied to this crop. Guano, as far as my knowledge extends, has not been tried, but I have no doubt the effect would be a considerable per cent. above any other manure, barn-yard manure not excepted." We have seen Peruvian guano applied to buckwheat, with the most astonishing effect. One hundred pounds per acre doubling the crop.

The flowers of buckwheat are particularly attractive to bees, and where bees are kept in considerable numbers, at least a small patch of buckwheat should always be sown.

Buckwheat is an excellent food for poultry. Pigs thrive upon and are fond of it, and when bruised it is good food for horses, two bushels being equal (for this purpose, it is said,) to three of oats. Cows, when fed with it, yield a large increase of milk. Sheep, when fed upon the plant when in blossom, stagger and tumble about as if drunk.

We throw out these hints with the hope of eliciting the experience of some of our practical readers.

MANGEL WURZEL.—A correspondent says: "I never drop but one Mangel Wurzel seed in a place. This one seed brings two or three plants which I transplant—the transplanted grow as large as the others." Is not our friend mistaken in regard to getting two or more plants from one seed?

He adds: "I don't believe superphosphate of lime would help my beets, or plaster either." Superphosphate would certainly help them during the first stages of their growth, but it is necessary to supply considerable quantity of organic matter—say farm-yard dung—in order to obtain a large crop. They are gross feeders.

THE CULTIVATION OF ROOT CROPS.

At a recent Legislative Agricultural Meeting in Boston, the subject of "Root Crops" was discussed, and we condense from the *New England Farmer* such portions of the discussion as we think may be interesting and useful to our readers at this season:

SIMON BROWN, Esq., of the *New England Farmer*, said he thought we did not yet fully understand the value of root crops. In England they are highly valued, because more can be obtained from the same surface for the support of cattle, by their cultivation, than by the cultivation of grain, and because they are valuable in producing beef and mutton, which are in great demand there. They are a favorite diet for sheep. With us, there is a prejudice against the cultivation of roots, perhaps on account of the amount of labor required. They need a deep soil, and most farmers have not got into the habit of cultivating deeply. Not more than one farmer in a hundred, in Massachusetts, had made any fair experiments in trenching. There are sandy loams, and in some cases, clay loams, that are well suited to raising roots. If well cultivated, from six hundred to twelve hundred bushels may be obtained from an acre. He had raised parsnips at the rate of twelve hundred bushels to the acre. The mangel wurzel is very easily raised; it grows large, and is always an excellent root for stock. It grows much out of the ground, and therefore seems to require a different kind of cultivation from some other roots. In cultivating, it is necessary to have the ground well pulverized, and then two furrows are turned together, and upon the top of the ridge thus formed, the seed is sown; the ridge being first flattened a little. The labor of harvesting them is less than that of turnips or ruta bagas. Cattle are very fond of them, and they are highly nutritious. He had not succeeded so well with beets as with other roots; but he had no doubt they could be raised at a handsome profit.

Round turnips may be cultivated easily by sowing them upon the land which is designed for grass, the ground being first plowed in July, and thoroughly prepared for grass, and the turnip seed being sown along with the grass seed. From three hundred to seven hundred bushels per acre may be obtained with out any extra labor except that of gathering them. This method impoverishes the soil very little.

The advantages of feeding roots to stock were next referred to. He had been told that milk could not be made for market unless the cows were fed on meal of some kind; but he had found it too expensive to feed wholly with meal and hay. Having determined to try roots, after an experiment of feeding six cows with meal one season, he fed the same six cows with the same kind of hay, and with roots, the next season. The roots were of various kinds, the mangel wurzel, beet, ruta бага, round turnip, parsnip and carrot, and these were mixed in feeding. After being milked in the morning, each cow was fed half a bushel of mixed roots, which they ate greedily. There was no complaint of the turnip taste in the milk, and his milk man returned him cash for twice as many cans of milk as he did the year before, when they were fed on grain. That experiment had satisfied him that more milk could be obtained by the use of roots, than by feeding a certain amount of meal a day, say three quarts a day, as he fed his cows the first winter. The milk from roots is perhaps of a poorer quality, but

milk sellers rarely have any qualms of conscience about that, if they get a greatly increased quantity. Mr. WEBSTER was a careful observer, and rarely talked about farming, anywhere, without bringing in the root crops. He saw that their cultivation would be of great benefit to New England farmers. In closing, Mr. BROWN expressed the opinion that more could be made from a given number of acres by the cultivation of roots, than by the cultivation of grasses and grains.

Mr. WILLIAMS, of Hadley, was of opinion that root crops might be raised with great advantage, not only in his vicinity, but throughout the State.

Mr. BROWN stated the result of feeding round turnips to a cow for fattening, to which he fed thirty bushels, with hay, and made her very fat indeed, so that she was sought by the butchers at a high price. In preparing the land for turnips, he pulverized it well, and levelled with brush harrow. The seed was sown in drills, marked out with a machine prepared by himself. The labor of sowing in that way was very little, and they were weeded principally with a wheel hoe. He had recently seen a plan of a cultivator which weeded both sides of a row at once, but he had not seen it tried.

Mr. J. L. LOVERING, of Vermont, said that though root crops were perhaps less cultivated in Vermont than Massachusetts, there are few farmers who do not raise more or less. They raise many sheep, and it is becoming an axiom that no farmer can have a good flock of merino sheep who does not feed them with roots as often as twice a week. The green food seems to prevent some of the diseases to which they are subject when not thus fed. Ruta bagas are raised principally for feeding stock. He had not succeeded well with getting his carrots to germinate, as for some cause or other the seed failed; but when they came up well, he had no difficulty in obtaining a large crop. He had raised at the rate of twelve hundred bushels to the acre, and he thought them better than ruta bagas. Potatoes are still fed to stock a good deal in Vermont. Many are raised, and if they will not bring in market about twenty-five cents a bushel, they are considered worth that to feed out. Some farmers cook ruta bagas before feeding, and one gentleman had recently fattened a pair of old cattle with ruta bagas cooked, and made them very fat. He thought ruta bagas worth twice as much when cooked as when fed raw. Turnips are fed to sheep, and are thought to be better for them than carrots, or other roots, producing a better quality of milk for the lambs.

Gen. TOWNE, of Worcester county, had a very high opinion of the importance of roots for feeding stock; the sugar beet, for beef and for stock generally, was in his opinion, decidedly the best root that grows. One great advantage in raising them is, that the tops are very good indeed for young hogs. He always meant to have some pigs about the first of September, so that about the first of October the milk of the mother would hardly be sufficient for them. Then he had a yard of sugar beets near, and he would make a little hole in the fence so that the pigs might understand they were getting into mischief by getting among the beets, and they will eat off all the leaves, which are as good as green corn for them, and the eating of them off does not injure the crop at all. He thought the leaves more than paid for the labor of raising those which were near the hog pen.

In sowing them, he took pains to put but a single seed in a place, dropping them in little holes made by a stick, about five inches apart. He was quite particular about sowing them, because it would save the labor of thinning them out. He put them in about two inches deep, and covered with a hoe. The rows were about two feet apart. He did not soak the seed before sowing.

SANDFORD HOWARD, Esq., of the *Boston Cultivator*, thought the idea that turnips make poor milk, was carried too far. He knew a farmer who fed his cows on Swedish turnips and chopped hay, and his customers complained when the turnips were omitted. He knew another man who has kept seventy head of cattle and fed several thousand bushels of turnips, and made excellent butter. At the exhibition of the New York State Agricultural Society, he received the highest premium for butter, his cows having been fed wholly on Swedish turnips and hay. The comparative value of different vegetables is important; but he believed potatoes to be far superior to any other root for feeding to cattle. One winter he fed two cows one week with potatoes, the next with parsnips, and the next with sugar beets, giving them also constantly, two quarts of meal per day. They were fed in this way through the winter, and the result was that the cows did best in those weeks when fed on potatoes, and poorest when fed on sugar beets. He thought the Massachusetts Board of Agriculture could not do a better thing than to direct attention to experiments as to the relative value of different kinds of root crops as feed for cattle.

Mr. WILLIAMS, of Hadley, spoke of the difficulty in raising roots on the Connecticut river valley, for the reason that the soil becomes weedy from cultivation, and consequently there is more labor required to cultivate roots than corn. He had experimented some in the cultivation of potatoes. The disease has affected them considerably sometimes. When planted on a dry, alluvial soil, without any manure placed in the hill, they decayed much less. He had found great advantage in taking the seed from a distance. On one occasion he procured some Carter potatoes from a hill town twenty miles distant from his own farm. They were quite small, and he hesitated about planting them. But he obtained a very fine crop of excellent potatoes from that seed, while from large ones of the same kind raised on his own farm, he did not obtain more than two-thirds as many, from the same quantity of land.

Mr. LOVERING spoke with reference to the necessity for changing potatoes, in answer to the remarks of Mr. WILLIAMS, stating that he had cultivated one variety which he knew had grown on his farm for thirty-five years, and he had no doubt he obtained as good ones from them last year as were ever raised anywhere.

Mr. DODGE, of Sutton, spoke of the difficulty from weeds among root crops, and said that he had killed the weed seed in the manure by putting salt into the manure.

Mr. BUCKMINSTER advocated the planting of small potatoes, of about the size of hen's eggs, or even smaller, if sound. If they are equally good, there is an advantage in using them, because more plants can be obtained from a bushel. He knew a gentleman by the name of BLANCHARD, of Wilmington, who had tried planting small potatoes six years, and the last year the crop was quite as good as that of any pre-

vious year. He was glad that the cultivation of a variety of root crops was gaining favor. Carrots are worth \$12 per ton in Essex county. One gentleman in Worcester county raised one hundred and forty tons, which he sold for from \$10 to \$12 a ton. In this connection, he spoke of the value of sweet apples, which he thought very beneficial for stock.

Gen. TOWNE said he had cultivated small potatoes six years, and he considered them decidedly better than large ones. He would also feed sour apples to stock, if sweet ones were not to be had.

Dr. FISHER, of Fitchburg, stated that a gentleman in his town had planted small potatoes between twenty and thirty years, and he found them as good as large ones.

THOROUGH PULVERIZATION OF THE SOIL

"THE finer land is made by tillage, the richer will it become, and the more plants it will maintain. It has been observed that when part of a ground has been better tilled than the rest, and the whole ground constantly managed alike afterwards for six or seven years successively, this part that was but once better tilled, always produced a better crop than the rest, and the difference remained very visible every harvest."

So wrote JETHRO TULL. To a certain extent experience has fully proved the truth of this assertion. On heavy, clay soil, abounding in all the elements of plants, but which were locked up in an unassimilable condition, thorough tillage, by admitting the air and light into the soil, and thus favoring the disintegration of the inorganic and the decomposition of the organic matter of the soil, has in innumerable instances, rendered the soil exceedingly productive for several years. But on light soils, which contain a far less proportion of those substances which form the food of plants, and which are naturally less impervious to air and light, no such results are obtained. Good tillage is necessary on all soils, but tillage *alone* will not enable the farmer of light sandy land to obtain large crops for but a few years, at the longest. Tillage renders available the food of plants lying in an insoluble condition in the soil; but if this food of plants is not in the soil, no amount of mechanical or chemical action can render such soils fertile.

It is true, however, that few soils are so sterile—so exhausted of those elements which constitute the food of plants—that they cannot be made to produce a crop by means of draining, good plowing, harrowing, rolling, &c.; and if the right crops are grown and consumed on the farm by animals, and the manure carefully husbanded and returned to the soil, the farm may be made richer every year, and be soon in a condition to produce large crops of the valuable cereals.

What we would advocate therefore, is underdraining and thorough tillage, and pulverization of the soil on heavy land, which will in this way be able to retain all the ammonia brought to it by rain; and on light sandy soils—which do not possess this property of retaining ammonia—the more extensive growth of those crops which have the power of organizing all the ammonia brought to them by the rain, air, &c. In other words, while summer fallows are useful and perhaps necessary on clay farms, they should not be adopted on light land farms, but in their place, clover, peas, beans, turnips, and other fallow crops should be grown.

EXHAUSTION OF THE SOIL.

There is on an average, about one fourth of a pound of potash to every one hundred pounds of soil, and about one eighth of a pound of phosphoric acid, and one sixteenth of a pound of sulphuric acid. If the potatoes and the tops are continually removed from the soil, it will soon exhaust the potash; if the wheat and straw are removed, it will soon exhaust the phosphate of lime; if corn and the stalks, it will soon exhaust the sulphuric acid. Unless there is a rotation, or the material that the plant requires, is supplied from abroad, your crops will soon run out, though the soil may continue rich for other plants.—*Ag. Exchange.*

REMARKS.—An acre of soil twelve inches deep would weigh, say 1,600 tons. According to the above figures, it would contain 8,000 lbs. of potash, 4,000 lbs. of phosphoric acid, and 2,000 lbs. sulphuric acid.

Estimating that potatoes contain 20 per cent. of dry matter, and that 4 per cent. of this is ash, and that half of the ash is potash, we only remove in a crop of 250 bushels, 60 lbs. of potash. Say that the tops contain 20 lbs. more, and we have potash enough in an acre of soil to produce a crop of 250 bushels of potatoes, each year for a century!

A crop of wheat of 30 bushels per acre, contains about 26 lbs. of ash, and half of this say, is phosphoric acid. Allowing that the straw, chaff, &c., contain 7 lbs. more, we remove from the soil in a crop of wheat of 30 bushels per acre, 20 lbs. of phosphoric acid. According to the above estimate, then, an acre of soil contains sufficient phosphoric acid to produce annually a crop of wheat and straw of 30 bushels per acre for two hundred years!

We will pursue the calculation no further. The writer of the paragraph quoted above, selected out the crops and elements best suited for his purpose; but it will be seen that even according to his own estimate there is sufficient potash and phosphoric acid in the soil to give the present wicked generation all the potatoes and wheat they may need.

But let us take another view of the subject. No intelligent farmer removes all the potatoes and tops, all the wheat, straw and chaff, and all the corn, stalks &c., from his farm. According to Dr. Salisbury, a crop of corn of 75 bushels per acre removes from the soil 600 lbs. of mineral matter; but the grain contains only 46 lbs. The remaining 554 lbs. is contained in the stalks, leaves, sheaths, husks, &c., all of which are generally retained on the farm. It follows from this that, when only the grain is sold off the farm, it takes more than 13 crops to remove as much mineral matter from the soil as is contained in the whole of one crop. Again, the ash of the grain contains less than 3 per cent of sulphuric acid, so that the 46 lbs. of ash in 75 bushels of corn contains less than a pound and a half of sulphuric acid, and, thus, if as is estimated, an acre of soil contains 2,000 lbs. of sulphuric acid, we have sufficient for an annual crop of 75 bushels per acre for fifteen hundred years!

Intelligent wheat growers seldom sell their straw, or chaff, and frequently consume on the farm nearly as much bran, shorts, &c., as is sent to market with the grain. In the Natural History of New York, part V., it is stated that a crop of wheat, in Western New York, of thirty bushel per acre, including straw, chaff, &c., removes from the soil 144 lbs. of mineral matter. Genesee wheat usually yields about 80 per cent of flour. This flour contains only 0.7 per cent of min-

eral matter, while fine middlings contain 4 per cent. Coarse middlings, $5\frac{1}{2}$; shorts, 8; and bran, $8\frac{1}{2}$ per cent. It follows from this that, out of the 144 lbs. of mineral matter in the crop of wheat, less than 10 lbs. is contained in the flour. The remaining 134 lbs. is found in the straw, chaff, bran, shorts, &c. Even, however, if none of the shorts is returned to the farm, the 30 bushels of grain remove from the soil only 26 lbs. of mineral matter; and it would take more than five crops to remove as much mineral matter as one crop contains. Allowing that half the ash of wheat is phosphoric acid, 30 bushels remove only 13 lbs. from the soil, and if the soil contains 4,000 lbs. it will take 307 crops of 30 bushels each to exhaust it.

We commend these facts to the consideration of the writer of the paragraph we have quoted. If his estimates are correct; if the soil contains as much potash, phosphoric acid and sulphur as he states, we need have few fears of waking up some morning to find all the precious elements of crops departed from our soils for ever.

We would just observe that the idea, embodied in the latter part of the paragraph, has no foundation in fact. If a soil is exhausted of potash, or of phosphoric acid, it will not "continue rich for other crops." Not a plant that we commonly cultivate, can grow upon soil destitute of *any* of the mineral elements of plants.

HOW TO PROTECT GROWING CORN.—A correspondent of the *Granite Farmer* gives some capital advice as to how to make the seed corn come up—how to make the plant grow—how to keep the hens from scratching up the seed—how to prevent the crows from pulling up the plant. Hear what the *Farmer* says:—

"The most sure way to have the seed 'come up,' and do well, is first to manure and prepare the ground well—plant good seed, clean as it came from the cob. This never fails with me; all variations from this have failed under different circumstances.

"To prevent the seed from being destroyed by the hens.—The pig with a full belly, will never root around; the hen with a full crop, will not scratch the ground. Therefore—when my hens are disposed to scratch, I call them to the barn, and give them as much corn as they will eat, for which they always sing to me a merry tune; and lay a whole hat full of eggs.

"To prevent crows from pulling corn.—I scatter corn in the field broadcast, which they feel upon and leave the seed. If I have too much company by my liberality, I soak the corn in strichnia and hot water. Last spring, after scattering half a bushel of corn soaked in this way, I picked up forty-two dead crows, and how many more went off feeling 'kind o' sick,' I am not able to state.

"Wire and grub worms are more difficult to deal with—for any poison used for their destruction, is always absorbed by the soil, which is a sure protection to them. I have never found a sure remedy for these pests; and can only secure my seed by planting enough for their wants and mine too, and if they get more than their share, I plant new hills a few inches from the old ones thus destroyed, and 'thin out' at second hoeing."

UNDERDRAINING IN FRANCE.—The Emperor of the French has recently recommended *twenty millions of dollars* for the encouragement of underdrainage—an art which is as much neglected in France as in this country.

IRRIGATING WITH THE DRAINAGE OF THE BARN YARD.

At a recent agricultural discussion in London, Mr. W. BENNETT of Cambridge (Eng.) said :

"As to irrigations of this description, he would rather his friend Mr. Mechi should have recourse to them than himself, for he had derived so little benefit from irrigation by liquid manures in the long run, that he believed he might put in his eye and see none the worse for it all the good it had ever effected (Hear, and laughter). He would infinitely prefer using his liquid manure, mixed in compost heaps, to carrying it in its liquid state on the land."

We are well acquainted with Mr. BENNETT, and know him to be one of the best and most experienced farmers in England, and his opinion is entitled to consideration. At the same time, we must say, that we have seen the liquid drainage of the barn-yard applied to grass land in considerable quantity, with decidedly beneficial results. We have in our mind a six acre meadow in Shropshire, England, where the drainage of a barn-yard, in which some forty head of cattle, and nine horses, &c., were kept, had been applied for upwards of twenty years, and from which immense crops of grass were obtained two or three times every year. The owner of the meadow was an intelligent practical farmer, who certainly would not have continued the practice for so many years, had he not found it profitable. The water was run on to the land in artificial conduits which formed a complete network all over the field. We must add, however—and it is a fact worth remembering, and which may serve to reconcile the conflicting testimony of these practical English farmers—that it was thought desirable to render the drainage as dilute as possible, all the fresh water that could be obtained, being turned into the tank. We are fully persuaded that there are hundreds of our readers, whose barn-yards are so situated that, at trifling expense, a small stream might be dammed up and turned so as to run into the tank or pond containing the drainage of the barn-yard, and then conducted on to a meadow where it could be distributed by means of small drains, and which could be made to overflow at any point desired.

Mr. BENNETT throws out an idea which is worth reflecting on. "He would infinitely prefer using his liquid manure, mixed in composts heaps, &c." Is there any necessity for allowing any of the drainage of the barn-yard to run to waste, even if it is not used for irrigating purposes? Can we not by means of a large tank, retain all the surplus water in wet weather to be pumped back on to the manure when it is dry enough to absorb it? In England, where, in proportion to the grain, as much again straw is produced as in the drier climate of America, we are well satisfied that with properly arranged buildings, this can be done; and here we would say, that when we visited Mr. BENNETT's celebrated farm in Bedfordshire—a farm which when it came into his possession would hardly "sprout oats," but which by the cultivation of turnips and other leguminous plants, and by keeping a large flock of sheep, and feeding them with American oilcake, he raised in a few years to the highest state of fertility—among all the interesting things we saw, none pleased us more than his range of low, stone buildings enclosing an open yard. With such a farm stealing from which all the eaves droppings were carried off and not allowed to run on to

the manure, we can easily believe that little difficulty would be experienced in absorbing all the liquid manures in compost heaps or with the manure itself. How far this can be done on American farms, we leave our readers to determine. We should be glad if they would discuss this subject, through the pages of the *Genesee Farmer*.

CAN THE HAND HOE BE DISPENSED WITH IN CULTIVATING INDIAN CORN?

We think it can. At all events, much more of the labor of cultivating can be done by horses instead of men. The great difficulty in cultivating corn is, that farmers do not begin to destroy the weeds early enough. Mr. DAVIDSON, of Greece, in this county, *harrows his corn field* as soon as the rows of corn are visible. In a few days he harrows it again in an opposite direction. The harrows pull up none of the corn. They cover up some of the hills occasionally, but a boy with a hoe can easily keep up with the harrow and remove the soil from off them.

In a few days after the two harrowings, horse hoe *both ways* between the rows. When the corn is sufficiently advanced, run a chisel plow *both ways* between the rows, throwing up a little soil to the hills. This completes the cultivation, unless there are any weeds close against the corn in the hill. A man with a hand hoe would cut out these from several acres in a day, if the other operations have been skillfully performed.

We were once passing Mr. DAVIDSON's farm, and were struck with the cleanliness and luxurious growth of the corn, and on inquiry we found that "a hoe had not been in the field since the corn was planted." A cleaner field of corn we never saw. On the opposite side of the road, a field of corn cultivated in the ordinary way, at twice the expense of Mr. DAVIDSON's, was not half so good, while the soil was the same, and the previous treatment much better.

It is proper to state that Mr. D. used a compost made by mixing the droppings of the poultry house with unleached wood ashes and plaster, applying a little to each hill at the time of planting. He thinks this the best fertilizer that can be used for corn. The hen droppings are dry, and consequently do not evolve any ammonia till they are mixed with the soil. It is important that they should be dry, or otherwise the ashes would set free the ammonia.

We have cited the practice of Mr. DAVIDSON simply because it came under our own observation. We have no doubt that there are many farmers in this vicinity who use the horse hoe instead of the hand hoe in cultivating corn. We should be glad to have the matter discussed in our columns.

CHANGE OF SOIL.—JETHRO TULL says: "Common barley, sown once in the burning sand at Patney, Wiltshire, will, for many years after, if sown in indifferent warm ground, be ripe two or three weeks earlier than any other which has never been impregnated at Patney; but if sown a degree farther north, on cold, clayey land, will in two or three years lose this quality, and become as late ripe as any other. The grains of vegetables are their eggs, and the plants proceeding from them have their virtues and their diseases also; while weeds and their seeds in the fields where they grow naturally, reach perfection without change of soil."

FRAUDS IN ARTIFICIAL MANURES.

To those unacquainted with the subject, the extent to which farmers are defrauded in the purchase of artificial manures is past all belief. Cautious JOHN BULL has been victimized most cruelly. He has purchased Peruvian guano that was half sand, superphosphate of lime that was little else than plaster and the useless refuse of chemical works, "Economical Manure" at eight pounds sterling per ton that was not worth as many shillings, "poudrette" that was half street scrapings and half coal ashes. In this country similar frauds have been practiced, and we have done our share in exposing the nefarious practices of these meanest of all scoundrels. As a general rule, farmers in this country are reading men, and, with one or two exceptions, the agricultural press is conducted by those who are willing to expose all such attempts to rob the farmer of his hard earned money. Still, there is at the present time an extensive trade carried on in fraudulent manures. We see that a respectable house in Boston still advertises "Chilian guano" for sale at \$40 per ton, notwithstanding that we have shown that this article, which is said to come from the coast of Chili, and to be "superior to the best Peruvian," is manufactured on a celebrated farm near Newark, N. J., and is a worthless compound! A large trade is done in "Nitrogenized superphosphate of lime," which is said to be manufactured from bones, and "dried blood, from Texas," but which we have good reason to know is made from the refuse scum of the New York sugar refineries! The proprietor of a large factory where marble slabs are sawed, informed us that the *marble dust* is purchased by dealers in plaster and other manures, in New York, for purposes which he cannot ascertain!

We are led to these remarks by an article in the last *Journal of the Highland Agricultural Society of Scotland*, by Prof. ANDERSON. He analyzed two manures purporting to be made from sewerage water, with the following results:

	I.	II.
Water,	18.04	4.03
Organic matter,	19.71	30.13
Phosphoric acid,	2.03	0.60
Peroxide of iron and alumina,	6.93	7.10
Sulphate of lime,	27.05	3.14
Car-bonate of lime,	6.43	3.70
Alkaline salts,	3.00	
Sand,	16.81	51.13
Ammonia,	1.13	0.64

"These substances," he observes, "are of very trifling value. The first, which is the best of the two, and contains 2 per cent. of phosphoric acid and 1 of ammonia, when calculated according to the method used for determining the price of a specimen of guano, proves to be worth only about 16 shillings (\$4) per ton; and the second does not exceed 7 shillings. *And yet these and similar substances are gravely declared to be equal in value to guano!*"

DRAINING OF THE HARLEM SEA.—The Chairman of the Commission on the draining of the Harlem Sea in Holland has published a final report on this work, which is to be finished this year. The expenses from 1839 to 1855, inclusive, are \$3,400,000, and the receipts from land to be sold is \$3,200,000. It was at first supposed the reclaimed land would be worth only some \$32 per acre, but in 1853 it was actually sold for over \$120. Forty-five thousand acres in all have been reclaimed from the sea, which will supply 100,000 people, bountifully, with the means of life.

NOTES FOR THE MONTH, BY S. W.

Methinks our State Society might be absolved from the suspicion of desiring to excite any man's cupidity, when the Board declared a \$75 premium for those nineteen distinct and varied experiments in the manurial treatment of Indian Corn, on the same number of quarter of an acre plots.

Will the \$75 pay for the amendments required by their programme; or, will the two plats, No. 1 and No. 19, which are to remain unmanured, pay for their culture; and how much of a crop on such poor land may be expected from the single application of 25 lbs. of Epsom salts on No. 9, or that of 50 lbs. of Gypsum on No. 10?

If these important experiments are made with that exact attention, care, and patience, which alone can make them reliable, they will cost much time and money, and must be extended through consecutive seasons, and that amateur who assumes the task must be too rich, both in purse and in feeling, to need or desire such a premium. Liebig tells us that his experiments on a ten acre plat cost him \$3,200 more than he realized from the products of the whole plat in four years. At Rothamstead, the single experiment of ascertaining the especial manurial requirements of the wheat plant, cost many thousands of dollars, and many reiterated, varied, and consecutive yearly experiments.

It is equally important to the interests of our great agriculture, that we should also set ourselves to the task of ascertaining the chemical requirements of our still more important cereal, Indian Corn; the more especially as it is so much quicker, more easily and abundantly grown than wheat in this its indigenous soil and climate. But such an undertaking belongs properly to an endowed Agricultural School or College, and such a one we have now finally secured to us by a Legislative Charter and endowment, to which is to be added individual subscriptions already made to the amount of thirty thousand dollars, principally by the farmers and villagers of our southern towns—men who are as public spirited, as they are wealthy, intelligent, and every way worthy of their great calling and fair heritage in this all fertile and beautifully picturesque little County of Seneca.

The location of this College and Experimental Farm is now about being made near the dividing ridge between the two lakes in Ovid; perhaps adjoining the poetic little village of that name, which looks down upon the expanded waters of the one lake, while it looks over the broad but lower surface of the other.

It is not by one year's experiments, however varied they may be, that we are to learn the precise manurial requirements of Indian Corn. But we already know, from observation and experiments, that corn requires a more carbonaceous soil than wheat—herein, the corn plant finds a full supply of that nascent carbonic acid and ammonia throughout the hot season, and during its most rapid progress to maturity.

What a pity that HORACE GREELEY had not made known last fall his very tempting premium of \$50, for the best acre of corn grown by a boy of eighteen years, as no man or boy can prepare a heavy loam for corn without plowing or trenching in stable dung deeply in the fall. A previously well-treated calcareous clay, thus furrowed in the fall or winter, will be as mellow as ashes in the spring; whereas, if

spring plowed, no harrow or drag roller can reduce the lumps to a fine tilth, even if more than half sand and vegetable matter. That boy who has an acre of well-dressed creek or river bottom, now stands the best chance for the premium, as there nature has made a soil of varied but rich deposits, much less tenacious, when spring plowed, than heavy upland soils; but, even on such a soil, unwashed stable manure or Peruvian guano will add to the crop. The waste of manure from a loose or sandy soil is so rapid during the droughts of summer, that a maximum crop favors the aluminous formation, except in such a cool, wet summer as our last.

In the hot summer of drouth, 1855, when every farmer's corn rolled its leaves for weeks together, the leaves of my clayey corn patch scarcely curled during the heat of the hottest day; but long stable dung had been trenched in eighteen inches deep the fall before. Had the basis of the soil been sand, the buried manure would have been exhausted by the plants or evaporated into the air before the drouth was over, and the corn must consequently have suffered for both food and moisture; but in a cool, wet season the decomposition and waste of manure in a sandy or gravelly loam is much retarded.

It is now well ascertained by the Rothamstead experiments, corroborated by those of the lamented PUSSEY and others, that the specific manure for wheat is nitrogen, in its compounds of ammonia or nitric acid; but we have yet to learn from well instituted experiments, the special requirements of Indian Corn, and, also, whether carbon in the soil is necessary to furnish that rapidly growing plant with the extra carbonic acid necessary for its fast structure, or only as an absorbent to keep the soil loose and friable, and retentive of moisture, to feed the roots of the plants.

But *apropos* of that \$50 GREELEY premium. Plant in drills $3\frac{1}{2}$ feet apart, 9 inches apart in the drill if suckered, or one foot apart if the suckers are uncut. If in hills, plant equi-distant 3 or $3\frac{1}{2}$ feet apart, 3 to 4 plants in the hill, standing two or three inches from each other; removing the suckers will cause the ear to fill better, and ripen ten days earlier, and corn in hills may then stand only three feet apart—local culture and frequent light dressings is best. As the early Dent Ohio Corn has no suckers, it does well on a strong soil in hills three feet each way. JOSEPH WRIGHT, of this village, grew 170 bushels of ears to the acre of this noble corn, in the dry, hot summer of 1854. But the Dutton, or long eared eight-rowed, is more certain for all seasons in our climate. S. W.—*Waterloo, N. Y.*

NAPOLEON THE THIRD AS A MODEL FARMER.—“The Emperor,” says the *Echo Agricole*, “has, it is affirmed, just purchased the old demesne of Fouilleuse, situated between St. Cloud and Mount Valerien. The intention of his majesty is to establish on this ground a large model-farm, on which will be collected the most improved agricultural implements and the best breeds of animals of every kind. This excellent idea has been carried into practice by several Sovereigns, particularly in Wurtemberg and in England. The old estate of Fouilleuse was for twenty years used as a beet-root sugar manufactory, but was afterwards sold and divided. The Emperor has united the principle parts of it, and, by means of communications which will be formed, this agricultural demesne will become an appendage of St. Cloud.”

CULTIVATION OF RUTA BAGAS AND TURNIPS.

Much has already been written and published on raising the various root crops. Their value for farm stock cannot be questioned. It is true economy for every farmer to raise an acre or two of ruta bagas and turnips if he expects to winter cattle or sheep.—Sheep will winter well on straw if fed a few turnips twice a day, and cattle, if fed a bushel per day. Each will look much better in the spring than if fed on hay alone.

Ruta bagas should be sown from the first to the fifteenth of June, on a well-prepared soil, in drills or on ridges about two feet apart. A black, mucky soil is best adapted to their growth in this country; but they will succeed well on other soils, if made rich. If sown on ridges, they should be levelled a little, and the seed sown and soaked in; or sow with a drill on a level surface.

The plants will make their appearance in three or four days, usually, and if they escape the fly, they will soon need thinning—which should be done while very small. If the ground is rich they will grow very large and should not stand nearer together than six inches; they will then cover the ground both ways. The first time through the rows, use a cultivator, and the last a double mould-board plow. Keep them clean, and the work is done till harvest. The cost of raising them, if a good crop and well tended, will not exceed three cents per bushel, including all expenses.

My method of harvesting is to pull them and lay two rows together. Then take a spade and clip off the tops; after which, load them in the wagon and haul to the cellar for winter use.

Turnips can be raised on almost every variety of soil—the best being new land, black muck, loam and sand. I used to think that they would not grow well on old land, but experience has taught me better.

They may be sown from the first of July to the fifteenth of August, and after early potatoes, wheat, barley, or oats and peas. I have succeeded well sowing as above mentioned. If sown on old land, after other crops, it should be in a good state of cultivation or a large crop cannot be expected. I think the very best time to sow is from the 20th of July to the 5th of August. If sown after grain, the ground should be plowed and thoroughly harrowed as soon as the grain is harvested, to let the grain and weeds have a chance to grow. After a few days cultivate thoroughly, to pulverize the soil and kill the weeds, and the ground is ready for the seed, which may be sown broad cast and harrowed in. If the ground is very dry, it should be rolled. After the plants have attained a sufficient size they should be thinned and hoed once, and that will complete the work till harvest. If the ground is clean and not too thickly sown, a good crop can be raised without hoeing.—The best variety is the early white stubble, sown at the rate of two lbs. per acre.

The cost of raising a good crop will not exceed two cents per bushel. I have sold them as low as eight dollars a hundred and made a good profit. The tops make good feed for cows and young cattle, which are very fond of them, and may be kept till hard freezing weather if left in small heaps, to prevent them from heating. I know of no better way of harvesting than to pull them and lay in rows with the tops all one way, and top them with a knife.—E. S. H.—*Rochester, May 15th.*

CULTIVATION OF KENTUCKY BLUE GRASS.

CASSIUS M. CLAY, Esq., of Bourbon county, Ky., furnishes the *Ohio Farmer* the following excellent article on the celebrated Kentucky blue grass:

"The 'Blue Grass,' (*Poa pratensis*,) and known in England, I believe, as 'Spear Grass,' and 'Greensward,' which is so remarkable a production in Kentucky, is not indigenous, but has been imported accidentally, or by design. In our climate and soil it is not only the most beautiful of grasses, but the most valuable of crops. It is the first deciduous plant which puts forth its leaves here; ripens its seed about the first of June, and then remains green, if the summer is favorable in moisture, during the summer months, growing slowly till about the last of August, when it takes a second vigorous growth until the ground is frozen by winter's cold. If the summer is dry it dries up utterly, and will burn if set on fire; but even then, if the spring growth has been left upon the ground, it is very nutritious to all grazing stock, and especially to sheep and cattle, and all ruminating animals. When left to have all its fall growth, it makes fine winter pasture for all kinds of grazing animals. Cattle will not seek it thro' the snow; but sheep, mules and horses will paw off the snow, and get plenty without any other food. When covered with snow, cattle require some other feeding; otherwise they do well all winter upon it.

"It also makes the best of hay." I have used it for that for twenty years. It should be cut just as the seed begins to ripen, (as all other hay,) well spread, and protected from the dew at night by windrowing or cocking; the second evening stacked with salt, or sheltered with salt also. When properly cured, stock seem greatly to prefer it to all other hay. I would not recommend it for meadow especially, however, because the yield is hardly equal to timothy and clover, and because it is more difficult to cut and cure.

"CLIMATE AND SOIL.—The blue grass does not flourish well south of this State; and as low down as Mississippi utterly fails. I am of the impression that it will do well as far north as Cleveland, and even in parts of Canada; and between the same isothermal lines. It delights in limestone soils, but will grow in any rich loamy soil; it does not do so well in clayey soils, and I would not recommend it at all in very sandy soils. Although even there, it might shelter railway embankments, if not grazed or too much trod upon. It has very fine, numerous and long roots, and holds the soil against washing, better than any grass known here; and will 'eat out' all others, if allowed.

"SEED AND CULTURE.—The seeds are very small and enclosed in the pods of the grass stem; when shattered out from the straw, they are then again enclosed in a rough husk. When rubbed heavily between the hands the pure seed exhibits itself, smaller than mustard, elongated, irregular, and semi-transparent. The seed is easily injured, and many fail for the want of good seed. When stripped they are generally taken too green; and when rotted and threshed out, and put in bulk, very liable to be heated and spoiled. The seed even when very ripe, is very difficult to separate from the straw. I would therefore recommend to cut the grass when the seed is quite ripe, and then cut the straw, or the richest heads of it, with an ordinary straw-cutter, and then spread it on some airy floor till sown. This is the cheapest mode, and the safest for good seed. When the seeds are good, if thrown upon fire coals, they will produce sharp crackling sounds, a faint imitation of exploded powder grains. If the seeds are unripe, or have lost their vitality, they burn with little noise. But after all, it would perhaps require an experienced ear thus to test them; and I know of no other, except that the best seed, when

hulled out, are the plumpest, and most transparent or waxen colored.

"PREPARATION OF GROUND.—If intended for ornamental grounds, the land should be thoroughly plowed and harrowed, then sowed and rolled. The earlier the seed is put into the ground after the frost is cut, the better. As the young plant is very delicate, it is better to shelter it by sowing about half a crop of oats, or spring wheat; or it will do very well to sow it upon winter wheat, provided there has been room allowed; as too much shade will kill it the first year, as well as too much sun, unless the season be very wet, when it grows well without any shelter. It should neither be cut nor pastured the first year, as it will not be worth cutting, and pasturing pulls it up by the roots, and otherwise injures it by treading. If sown with grain, hogs may be allowed to eat down the grain, but no other stock, as the hogs don't care to graze upon it at that stage of development, and prefer the grain. The second or third year it is very good grazing, even for hogs.

"SOWING AND QUANTITY OF SEED.—If the seed is clean, a bushel (by measure,) sows very well with grain or other seeds, from eight to ten acres. Lay the ground off as for sowing oats; then take as many seeds as you can hold between the thumb and two fingers, and cast it broadcast, as oats, moving with about the same gait, but perhaps making rather more casts.

"If the seed are sown in the 'strip' state, or cut up in a box, grasp a handful as if sowing wheat, and make about three quick casts with one handful, as the seed do not easily separate as oats or wheat. If the ground is intended for pasturage, it is best to sow clover or timothy seed with it, an equal measure of each, because the clover and timothy make a quicker bite for stock, and if not too hardly grazed, will last with it for many years; thus giving variety, and perhaps more food, as clover and timothy may use some elements of the soil which blue grass does not feed upon; and because, also, variety is best for all animals. It is all important to never allow grass to be grazed too cleanly, but to keep the ground covered; thus retaining moisture, protecting the roots against cold and heat, and retaining ammonia and other elements from the air. Grazing grass short, is like eating the young of animals—bad economy."

EXPERIMENTS ON OATS.—At a recent meeting of the Prince George Hole and Corner Club, (Va.) JOHN BATTE gave the result of some of his experiments on oats. The experiments were made on a spring fallow after oats, and seeded the 13th of March, and cut the 4th of July. Each plot of land contained on quarter acre. The results were as follows:

No. 1. $\frac{1}{4}$ acre, $8\frac{1}{2}$ lbs. seed, 50 lbs. superphosphate; from which I reaped 176 lbs. of oats—say 22 bushels per acre.

No. 2. $\frac{1}{4}$ acre, $8\frac{1}{2}$ lbs. seed, 50 lbs. Peruvian guano; from which I reaped 389 lbs. of oats—say 48 $\frac{1}{2}$ bushels per acre.

No. 3. $\frac{1}{4}$ acre, $8\frac{1}{2}$ lbs. of seed, 25 lbs. guano; from which I reaped 256 lbs.—say 32 bushels per acre.

No. 4. $\frac{1}{4}$ acre, $5\frac{1}{2}$ lbs. of seed, 25 lbs. guano; from which I reaped 275 lbs.—say 34 $\frac{1}{2}$ bushels per acre.

Mr. BATTE adds: "I applied superphosphate to my whole crop, but with no better result than appears in the experiment. This is the only crop upon which I have ever used this fertilizer, except in a small way, upon ruta бага turnips, where I believe it will pay very handsomely."

Difficulties dissolve before a cheerful spirit, like snow drifts before the sun.

PLOWING UNDER CLOVER, WEEDS, &c.

In plowing under a heavy crop of grass, weeds, &c., it is sometimes difficult to bury them completely. Everybody has seen a log chain fastened to the beam of the plow to assist in the operation,—and a material assistance it is. A few years ago, when on the farm of WILLIAM BENNETT, Esq., in Bedfordshire, England, he was plowing up a clover sod, for wheat, at one furrow. The clover was four or five inches high, and he had attached to the plow (one of HOWARD'S celebrated Prize Plows), a contrivance which was new to us, and which enabled the plowman to turn under the clover in a most complete manner. Not a trace of it could be seen. It consisted of a small ball of iron, a little larger than a hen's egg, attached to the beam by a strong chain, and to the handles of the plow by a light one. The length of chains were so adjusted that the ball would hang against the back part of the mould board. When plowing, the furrow slice pressed gently against the ball, and kept the chain attached to the beam sufficiently tight to enable it to press down all the clover, weeds, &c., as the furrow was turning over. We have never seen it used in this country, and no where else in England, where plowing under green crops is not so extensively practiced as formerly. A correspondent of the *American Farmer* gives a description of a similar contrivance, which any one can make in a few minutes:

"Saw off a block from some hard, durable and heavy wood, say about 10 inches long, and three and a half or four inches in diameter, then take a piece of trace chain, about three feet long, confine one end to the block by driving a small staple in the end, having first passed the staple through an end link of the chain. Point the other end of the block, and attach a larger chain in the same manner to that. Tie the short chain (attached to the square end of the block), to the rod which passes through the mould board and beam of the plow, by wrapping it around the beam at that place; drop the block in the bottom of the furrow which has been already opened, (of course on the mould board side), draw up the long chain and attach that to the clevis pin or clevis. Be sure that you have both chains just tight enough to permit the block to lie in the furrow; allow no slack. The short chain gathers the clover, weeds, &c., and bends them down. The weight of the block prevents the chain from rising, and the plow laps the dirt over the weeds, whilst they are in a recumbent position. I am this day turning under weeds as high as the heads of the plowmen, who are almost wholly concealed."

ROLLING LAND AFTER CORN PLANTING.

A correspondent of the *Prairie Farmer* is an earnest advocate for rolling corn land. We commend his remarks to the consideration of our readers, and should be glad of their experience on the point:

"Rolling land after corn planting will pay as well as good plowing or harrowing. Indeed, the time spent in rolling down a field pays better than in almost any other way, while preparing for a crop. Many farmers who have dropped their seed upon the hot, dry surface, and covered it with earth more resembling ashes than anything else, last spring, had they rolled their fields afterwards, would have seen nice long rows of sprouting corn about the time they were planting over. There are two reasons why rolling produces moisture in dry seasons. One is, that the earth being made firmer, conducts the moisture from the subsoil more

readily, and another is, that the ground being made perfectly level, there is little more than half the surface presented to the action of the wind or sun, or from which evaporation takes place.

"Another great advantage in rolling land, is the ease with which the land is afterwards cultivated. Crushing down the hills and filling up the hollows, it leaves the ground in such a condition that the cultivator may be started almost as soon as the corn begins to 'peep,' as there is little danger of rolling heavy lumps of coarse stub upon the young blades.

"In this respect a roller is of as much advantage in wet weather as in dry. A roller can, and in my opinion, ought to be used on corn ground in any kind of a season. It is a cheap implement, and can be made with a scraper behind, to clean it every revolution, in wet weather. A boy can drive the team and follow a man with the two row hand-planter. I can show any person who wishes, two fields of corn nearly separated by a fence, planted on the same kind of land, at the same time, and out of the same kind of seed. One has been rolled down and the other has not, and the rolled corn is a foot the highest."

AGRICULTURAL PREMIUMS.

We have often urged upon our Agricultural Societies the importance of offering Premiums not only for the best cattle and crops, but also for the development and exposition of the *principles* of breeding and fattening cattle and the laws which govern the growth of crops and the elaboration of grain, &c.—Prof. NORTH, in his address delivered before the Oneida Co. Agricultural Society, eloquently advocates the same course. We give the following extract:

It is to be hoped that the day is not distant when our agricultural societies will be so reformed that premiums shall be paid for imperishable ideas, as well as for perishable crops. A good yield of corn is less worthy of a prize than a good treatise on the best way to raise corn. Pay twenty dollars for a premium on the best orchard in the country, and only one man is encouraged by it. Pay twenty dollars for a treatise on the best method of managing apple trees, and the whole world of fruit-growers gets a benefit. There are precious volumes of agricultural knowledge hived away in the memories of farmers that never comes before the public, simply because it is never invited.—Many a successful cultivator of the soil has died, making no sign, who might have bequeathed to society a legacy of valuable information. In place of offering the farmer five dollars for driving his pet Durham cow to the fair, offer him double the money if he will bring also his budget of experience in the dairy business. Society will be thereby a gainer, and the dignity of rural pursuits will be fittingly vindicated.

OIL YOUR HOE HANDLES, &c.—As the season has arrived in which farmers have all their implements in use, it may be well to remind them that the weather has a very destructive influence on wood. All implements *should* have been newly painted before taking out, after having been well housed during the winter. A simple dressing of linseed oil is a great saving, and such articles as rakes, hoes, &c., that are not commonly painted, should certainly be rubbed over with linseed oil. It will increase their durability, and give them a smoothness which no wear can impart without it. During the summer, I frequently take my rakes, (while in use,) hoes, spades, and even axes, and oil the wood thoroughly, and I believe I lose nothing by so doing. D.—Gates.

PAINT FOR BARN AND HOUSES.

THE following paint mixtures are given in WHEELER'S new and useful work entitled "Homes for the People," from which some valuable hints may be derived in forming desirable tints:

A cool grey, similar to what would be the tint of unpainted timber after a few years, may be obtained as follows:

Indian Red, half a pound;
Lampblack, three ounces;
Raw Umber, half a pound, mixed with 100 pounds of White Lead.

This color will be changed by the addition of sand, which in all cases is recommended, in a proportion of about one quart to every one hundred pounds of mixed color. The finest and whitest sand that the neighborhood affords should be used, and as its hue differs, so will the tint of the paint be changed.

This color, with one-third less white, is very suitable for roofs, and is a cool, unreflecting gray tint of great softness and beauty.

CREAM COLOR, No. 1.—A soft, pleasant tint, like that of coffee greatly diluted with milk, is oftentimes well adapted to a building, particularly in regions where red sandstone or other similar objects with such local coloring give a brown hue to portions of the landscape. It may be mixed as follows:

Yellow Ochre, five pounds;
Burnt Umber, half a pound;
Indian Red, quarter of a pound;
Chrome Yellow, No. 1, half a pound, with 100 lbs. of White Lead.

The key notes in this color are the Indian Red and the Chrome Yellow, and the tone may be brightened or lowered by more or less of either, as the individual taste may prefer.

No. 2.—A still more delicate tint, resembling the pure color of the Caen stone, and well adapted for a large building with many beaks of outlines, may be mixed thus:

Yellow Ochre, two pounds;
Vandyke Brown, quarter of a pound;
Indian Red, quarter of a pound;
Chrome Yellow, No. 1, half a pound to every 100 lbs. of Lead.

SUPPORTS FOR LIGHTNING RODS.

Nearly all the directions that occasionally appear for the erection of lightning rods, require that a glass insulating-ring be placed around the rod at each point of support, to prevent the electric fluid from passing to the building. Most of the rods we have seen have this contrivance carefully attached to them, and in most instances the ring was placed inside a hole through an iron rod or bolt, the other end of which entered the timbers of the building.

Now, there are but two objections to this contrivance, namely, the first, it is of no use; and secondly, it misleads to security by causing neglect of other precautions—all for the following reasons:

1. The distance insulated is too small to be of any practical utility, for very small charges of the fluid, such for instance as may be obtained every successive second from any good electric machine, will leap through the air a greater distance than that from the rod to the iron support; consequently in the heavy explosions from the clouds, it would be perfectly inefficient.

2. The glass, by becoming wet, as it certainly would in any thunder storm, would immediately become a conductor, and if useful at any other time, would now lose all its valuable property.

3. The nearness of the rod to the iron support, would

tend to turn the fluid into the building, if the communication to the earth below should happen to be imperfect, or if the explosion were too large to be easily carried down by the rod.

A much better plan is to make supports of wood, which may be of plank or small scantling, with a hole bored through one end for the passage of the rod, the other to be screwed, nailed, or mortised into the building, so as to hold the rod off at least one foot distance from the outer side or wall. If the rod is sharp at the upper end, high enough above the roof, continuous throughout, and enters the earth several feet (at least 6 or 7,) so as to reach permanently moist earth, no danger can ever arise—because the electric fluid always takes the *best conductor*, and as iron conducts almost infinitely better than seasoned wood, and the rod is held by it at some distance from the building, the discharge would pass instantly into the moist subsoil and be as instantaneously dissipated through the earth. Baked wood is nearly as perfect a non-conductor as glass; and when a foot in length and compared with glass of only half an inch, would insulate incomparably the best. Every electrician is aware that the heaviest discharge from a Leyden jar may pass safely through a metal rod held in the bare hand, provided the communication is complete at each end of the rod—which being so much a better conductor than the hand, none of the fluid passes into the latter. In the same way, a good lightning rod, high above the building, and entering the earth deeply, will carry down a heavy discharge through even thoroughly moistened supports, without any tendency to pass into the building. An interesting proof of this fact occurred some years ago, at a house formerly occupied by the writer. The rod, an inch in diameter, was a single silvered point at the top, and entered the earth six feet, into a bed of charcoal deposited there. During a severe thunderstorm, an explosion occurred to which the discharge of a cannon seemed as a mere pop-gun, and the building trembled to its foundations. It was however found to be uninjured; but the next day the point of the rod with its cap of silver, was found melted into a ball, nearly as large as a rifle bullet. This rod was held about one foot from the clapboarding by means of wooden supporters, painted like the rest of the house; and but for its protection, in carrying down, as it evidently did, a tremendous discharge of lightning, the dwelling would probably have been shivered to fragments.—*Country Gentleman*.

WETTING BRICKS.—It is important that every one engaged in building should be well informed in regard to the durability of materials. Very few people, or even builders, are aware of the advantage of wetting bricks before laying them, or if they are aware of it, they do not practice it; for of the many houses now in progress in this city, there are very few in which wet bricks are used. A wall twelve inches thick, built of good mortar with bricks well soaked, is stronger in every respect than one sixteen inches thick built dry. The reason of this is, that if the bricks are saturated with water, they will not abstract from the mortar the moisture which is necessary to its crystallization: and on the contrary they will chemically unite with the mortar, and become as solid as a rock. On the other hand, if the bricks are put up dry, they immediately take all the moisture from the mortar, leaving it too dry to harden, and the consequence is, that when a building of this description is taken down or tumbles down of its own accord, the mortar from it is like so much sand.

FOWLER'S DRAINING APPARATUS.

EDS. GENESEE FARMER:—I have read your articles on underdraining, which have appeared in your most valuable paper at various times, with much pleasure. I fully agree with you that "underdraining will do more for the improvement of American agriculture than any other one thing." I am satisfied that what you say in the March number is true, that thorough underdraining will not only enable the farmer to "plow his land earlier in the spring and later in the fall, but so increase the temperature of the soil that it will mature the crops two weeks earlier than though it was not drained." I have tried some experiments in underdraining, and have received full compensation for all the money expended. Still it is an expensive operation, and I could wish that some of our ingenious mechanics would turn their attention to the subject, and invent a machine for digging the ditches. Such a machine would not only be a fortune to the inventor, but a great boon to the farmer.

I have somewhere read that there is a machine in England that not only digs the ditches, but lays the tiles. Do you know anything of it? If you do, a description of it would be very acceptable to at least one of your readers. JAMES WILLIAMS—*Cayuga Co. N. Y., May 15th, 1856.*

Our correspondent probably alludes to "Fowler's Patent Draining Apparatus," which has been used in England with considerable success. Our English exchanges contain frequent allusions to trials with it in various parts of Great Britain, and almost invariably, where there are few or no stones in the ground, the trials have fully demonstrated the value and efficiency of the machine, while the cost of draining is reduced nearly one half.

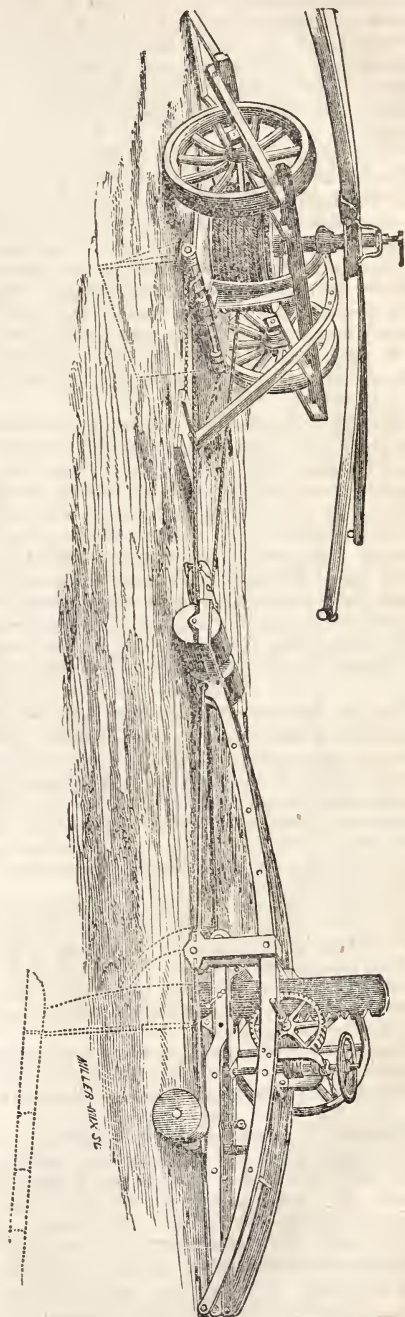
The accompanying cut, engraved for the *Genesee Farmer*, will give a good idea of the construction of the machine. It represents the machine just as it is finishing the drain. When commencing work, the plow is taken to one end of the field, and the capstan is moored at the other; the wire rope being run off the drum of the capstan, and attached to the plow, (either singly in shallow draining or soft soils, or returned round a single sheave where greater power is required,) as shown in the drawing. The plug and coulter are dropped into a hole prepared for them, and the pipes, threaded on a rope, are attached to the back of the plug, the hole being sloped off backwards to allow them to enter easily. The horses are attached to the horse levers of the capstan, and by walking in a circular course, wind the wire rope on to the drum, and pull the plow forward, with the pipes attached. When the required length of drain is completed, (which may be anything under 225 yards,) the plow is run into another hole, and the ropes on which the pipes are strung, being unhooked, is pulled out backwards, and the drain is complete.

As it would be inconvenient to have the pipe rope in one length, it is made in pieces of fifty feet each, and by a simple contrivance, as one rope enters, the other is attached to the end. Great care and attention have been paid to the means of moving the machines for commencing another drain; and it does not now occupy more than a quarter of an hour from the time of finishing one drain to commencing another. The accuracy with which the pipes are laid cannot be equalled by any hand work; and from the bottom being undisturbed, they are never liable to

sink, as is sometimes the case even in the best executed hand draining.

"By this process," say the manufacturers, Messrs. FOWLER & FRY, of Bristol, "not only is the cost of burying the tiles reduced in many cases fifty per cent,

FOWLER'S PATENT DRAINING APPARATUS.



but from the quickness and neatness of the operation, it can be done at any season of the year, without injury to any short crop, or interfering with the com-

mon farm operations, the surface soil being untouched, except at the headlands, and where the hedges are low, the capstan can often be fixed in the next field. In undulating or flat lands, the levels are kept, or a fall insured by working the coulter up and down in the body of the plow, by means of the worm and worm wheel, shown in the drawing, the plowman's eye being guided by a try-sight balanced on the plow, and a cross staff erected at the end of the field.

"Several of these plows are now in constant work, and though great lengths of the drains have been opened in the presence of large numbers of agriculturists, in no instance have tiles been found incorrectly laid.

"The quantity of draining that can be done per day will vary with each particular field, but in common clayland, where the depth does not exceed 3 feet, between 6,000 and 7,000 feet will be completed with four horses in a common working day; but when the depth exceeds three feet, from two to three horses will not do more than half that quantity. Where it is possible, this draining would be much more cheaply done in the summer, as twice the quantity of work may be done by having two teams of horses out, and the other expenses would not be increased in proportion."

We believe this machine has not yet been imported into the United States or the Canadas. Underdraining is beginning to receive that attention which its importance merits, and we think it might be well for some of our agricultural implement makers to see if a similar machine could not be manufactured in this country with profit. On the vast prairies of the West, where the soil is loose, and a stone is not to be found, there can be little doubt that it would work to perfection; and the time will soon come—if in many cases it has not come already—when many of our prairie farms can be underdrained with profit.

BOILING SHINGLES IN LIME AND SALT.—A correspondent of the *New England Farmer*, says:

"If the following fact is of any value, it is at your service. There is a building in this place, covered with shingles taken from another roof (where they had been in use some years), were boiled in lime and salt for about five minutes, and then re-laid. This was twenty seven years ago, and these shingles look now as if they would last some years longer.

Other roofs that were treated in the same way since, appear well. They are clean and smooth, the moss does not form on them, and the water runs off readily.

There seems to be no reason why white-wash, with the addition of salt, would not be beneficial when applied to a dry roof, in proportion to the lime and salt absorbed by the shingles.

Have you not observed that where the rain washes the lime from the chimney upon the roof, that the shingles remain sound longer than upon the other part?"

WESTERN FARMING.—The *Rock Islander* of the 27th instant, states that about seventy years ago a father and son landed at Port Byron, in Rock Island County, Ill. After paying the freight on their few household goods, they had but seven dollars wherewith to begin life in the West. They went to work manfully and industriously; bought a small piece of land, and added to it from time to time as they were able. A few days ago they were offered *twenty-one thousand dollars in cash* for their farm, which they refused.

WOOL GROWING IN THE UNITED STATES.

To a common observer nothing seems more extraordinary than the fact that this nation of intelligent farmers should be under the necessity of importing so many million pounds of foreign wool every year; to say nothing of the millions of yards of woollen goods also imported. If grazing lands were scarce, or held at high prices in this country; if the climate were unfavorable to the health of sheep, or to the production of good fleeces and mutton, it would be easy to account for the almost universal neglect of this great interest. But no such obstacles prevent the rapid multiplication of sheep, and the profitable extension of this branch of husbandry.

Why, then, do not the enterprising owners of the soil at the West and South embark largely in this business? What answer ought to be given to this question? Is it the fear of South American competition? or the want of a reliable market for the flesh as well as the wool of large flocks? Are dogs and wolves the dreaded enemies which prevent all serious efforts at wool growing on a scale in some degree equal to the necessities of twenty-seven millions of inhabitants? Whatever may be the hindrances, there should be knowledge and energy enough in Americans to overcome them. Capital judiciously invested in an enterprise of this kind would pay far better than money invested in railroads. The increase of sheep is rapid, and their care by no means expensive. Land adapted to their keeping may be bought in Georgia for fifty cents an acre; the pine timber on which will soon be worth ten times the cost of the land. All the new States offer important facilities for the economical feeding of large flocks of sheep. Land is not wanting. It is either capital or enterprise, or perhaps both.

Is it really impossible to raise so much as one efficient wool growing Company in this country? I trust not. Sound business men could easily organize a company on such a basis as to command the confidence of that class of capitalists who are interested in commercial and manufacturing operations. None of these are so safe as stock husbandry, if wisely managed. The Creator has given a self multiplying power to both animal and vegetable vitality, to assist the skillful husbandman in augmenting his gains, which is sought in vain in any mere trading or mechanical contrivance. Life is an agricultural element not sufficiently studied by farmers. In both sheep and swine its increase, under favorable auspices, is wonderful. Provide a fair supply of food, pure water and air, and one may breed sheep and hogs to any desirable extent, by the simple process of natural reproduction. Sustenance is the grand basis of both plant and animal culture. Nature feeds both, in many instances, very bountifully; but art and science should be ready at all times to lend her proper aid. Nature will not rear sheep, and shear and wash their wool for us. Man must do a part for himself; and the sooner he gets about wool growing, the better it will be for his country. L.

PAPER MANUFACTURE.—It is estimated that there is in the United States 750 paper mills in operation, having 200 engines, and producing in a year 270,000,000 pounds of paper, which is worth at ten cents a pound, \$27,000,000. To produce this quantity of paper, 305,000,000 pounds of rags are required.

HOW TO JUDGE A HORSE.

A correspondent of the *Prairie Farmer*, contrary to old maxims, undertakes to judge a horse by outward appearances, and offers the following suggestions, the result of his close observation and long experience:

"If the color be light sorrel or chestnut, his feet, legs and face white, these are marks of kindness. If he is broad and full between the eyes, he may be depended on as a horse of good sense, and capable of being trained to anything. As respects such horses, the more kindly you treat them, the better you will be treated in return. Nor will a horse of this description stand a whip, if well fed.

"If you want a safe horse, avoid one that is dish-faced. He may be so far gentle as not to scare; but he will have too much go-ahead in him to be safe with every body.

"If you want a fool, but a horse of great bottom, get a deep bay, with not a white hair about him. If his face is a little dish-ed, so much the worse. Let no man ride such a horse that is not an adept in riding—they are always tricky and unsafe. If you want one that will never give out, never buy a large, overgrown one. A black horse can never stand heat, nor a white one cold.

"If you want a gentle horse, get one with more or less white about the head; the more the better. Many suppose that the particular colored horses belonging to the circuses, shows, etc., are selected for their oddity. But the selections thus made are on account of their great docility and gentleness."

We once knew a horse that answered the above description of a "fool" exactly. His face was a little dish-ed, and his color "a deep bay, with not a white hair about him." He was the worse tempered animal we ever saw; stubborn and tricky as a mule. He would throw the best of jockies, and get away from the most watchful of drivers. He would be walking along as gentle as a lamb, when on a sudden he would make a desperate plunge. On one of these occasions he leaped seventeen feet! Finding the jockey still on his back, he kept on his way as quietly as though he had never had the most distant idea of getting rid of his burden. Nothing could tame or tire him. So far, then, our experience confirms the above rule. But we have little doubt that there are many deep bay horses with slightly dish-ed faces, that are as tractable as the "colored horses belonging to circuses, shows, etc."

We believe we have seen black horses that could stand heat, and white ones that could stand the cold. Indeed, we have heard intelligent farmers give it as their opinion that a white animal suffered less from cold than a darker colored one. An able writer in the *North British Agriculturist* says: "White is regarded by many as an evidence of delicacy of constitution; the very opposite we believe to be the fact. If a white color is an index of delicacy of constitution, how is it explained that animals exposed to cold, such as in the Arctic regions, are generally white; and what is equally remarkable, that in the interior of Africa, the domesticated ox is generally white, while the sheep are almost always spotted with brown or dark spots." We believe color has nothing to do either with the hardness or delicacy of an animal.

Good Hogs.—Seven hogs were sold in Cincinnati, a short time since, whose total weight was 4,823 lbs., or upwards of seven hundred pounds each.

A FEW FACTS ON BREEDING ANIMALS.

There is an obvious connection between the internal vital organs of animals and their external forms. For instance, good lungs and constitutional vigor, are indicated by a broad and deep chest, giving room for the heart and lungs to perform their functions.—A round—"hooped"—barrel shows that the animal possesses a full and capacious paunch, affording room for the materials from which the blood is provided, and indicates a tendency to easy fattening. A large pelvis in the females is an almost certain indication of good reproductive organs. Large bones and horns are evidence of hard keepers, and the farmer's object should be to lessen the bony structure and strive after a delicate but well-covered skeleton.

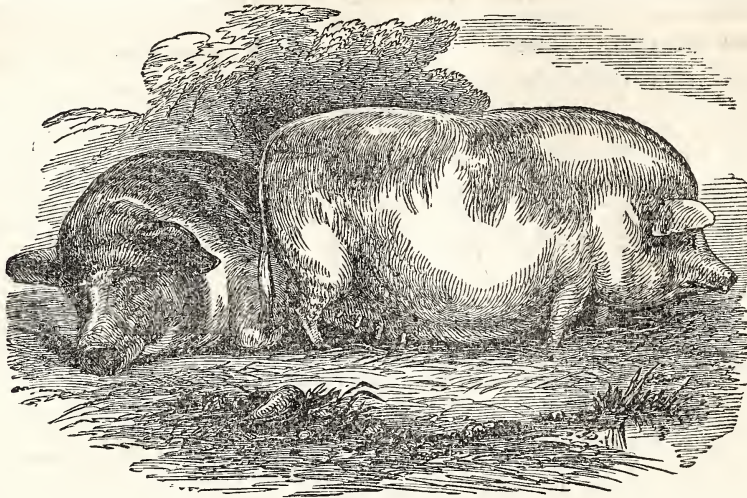
The strength of animals depends far more upon the development of the muscular system, than upon the mass of bones. This fact should have full weight in the selection of horses for breeding. Animals of any kind which have poor keep, while young have their heavy structure disproportionately developed.

We are of the opinion, not that too much attention has been paid to the proper selection of males, but that too little care has of late been exercised in the choice of females for breeding. We would sooner have the latter above the medium size than the former. The practice of putting large males to small females will destroy any race of animals, if persisted in. A large male begets a large fetus, and this a small female can neither accommodate nor duly support before or after birth. Let the males be medium in size, hard, compact animals; and let the female be rather above this point for them, and the progeny will continue to improve rather than degenerate, if wisdom and skill is exercised in the choice of other good qualities. It was through crosses with small barbs and Arabian stallions mainly that the improvement in English horses was brought about. A stallion, above all other male breeding animals, should have compactness; he should be *multum in parvo*, indeed. But a small, compact mare will seldom prove a good breeder, be her progenitors what they may.

It may not be possible to find a male of any race which is perfect—those must be chosen which have fewest defects. Especially should the breeder avoid male animals which do not possess the good qualities of form which he wishes to transmit to the offspring. No reasonable man, certainly, would unite animals which show similar defects. He could scarcely expect other than a mal-formed progeny. Great size and weight is not always an improvement. Locality and climate must be taken into consideration in deciding upon what race or breed of animals we shall propagate. In cold latitudes, a hardy race, not over nice in its food, will be found most profitable. A refined, delicate constitutioned race will surely degenerate in such situations.—*Prairie Farmer*.

OXEN VERSUS HORSES.—The issue of plowing matches throughout the country has, it is believed, established the fact, that oxen can plow a given space of ground as quick and as well as horses.—*Wool Grower*.

We very much doubt whether it is a "fact" that oxen can plow as quick as horses. But if it is, we would much like to know what "plowing matches" have "established" it.



CHINESE HOGS.

CHINESE HOGS.

This breed of swine has long been known in Europe and America, and has done much to improve our native breeds. As stated last month, the celebrated Berkshire hog owes some of its best points to an intermixture with the Chinese; and it is easy to trace the distinguishing characteristics of the Chinese in all our best breeds of swine. There are some seven varieties, or at least several kinds of hogs that are called "Chinese," produced by different climates, habits, &c. The kind most generally kept in Great Britain is a small, black, short-legged, quiet looking animal, with fine, small, stand up ears, short snout, thin skin, and a round, compact, fine muscled body, with scarcely any bones, and very little hair. They are much prized on account of early maturity, the rapidity with which they lay on fat, and the small amount of offal and bones. They make first rate "porkers," but are rather too small to be much valued as "bacon" makers.

They are chiefly valuable in this country for improving the large, hardy breeds of hogs. They are not sufficiently hardy themselves, ever to be a useful breed, except in a warm climate. Their meat, too, is said to be soft and oily. But by judicious crossing with some of the large, coarse breeds, great improvements could be effected in a short time. American farmers should turn their attention to this subject. We want a breed of hogs possessing the early maturity and fattening qualities of the Berkshire, the Suffolk, the Essex, the Neapolitan, and the Chinese, combined with the size of the Yorkshire or Lincolnshire, and the hardness of many of our so called native hogs. We want a breed adapted to the climate of this country. The breeds originated in England by crossing the large native hogs with the Chinese and Neapolitan are unquestionably the best breeds in the world for the English climate. It does not follow, however, that they are the best for this country. Instead of purchasing these breeds, we had better originate a breed or breeds of our own, by the same means which have been successful in England.

The Chinese pigs are remarkably prolific. Mr. HENRY PARSONS, of Guelph, C. W., who had some

of the breed directly from China, informed us some time ago, that he had some trouble to keep them from breeding too fast, and too many at a litter.

Our cut is a representation of two fine specimens of this breed owned by the late JOHN DELAFIELD, Esq., of Geneva, N. Y. At the time the cut was taken, the sow was suckling thirteen as nice, fat little fellows as any lover of "sucking pig" could desire. It is surprising how fast the little fellows grow and fatten, if well kept in a warm, clean sty.

POISONOUS PROPERTIES OF BRINE.—M. REYNAL states in the *L'Union Medicale*, that the brine obtained from the process of salting various kinds of meat and fish is used by the lower classes in France as a condiment in place of common salt, and by farmers as a remedy for diseases of domestic animals. Instances of poisoning, however, from its use having been noted in Germany, M. Reynal proceeded to investigate its action, and from a series of experiments detailed, draws the following conclusions:—1. That three or four months after its preparation, it acquires poisonous properties. 2. That the mean poisonous dose for a horse is four pints; for a hog, one pint; and for a dog, four or five gallons. 3. That in less doses it produces vomiting in the dog and the hog. 4. That the employment of this substance mixed with the food, continued for a certain time, even in small quantity, may be fatal. These facts are important, when it is recollected that smoked meat and sausages have sometimes exhibited poisonous properties.

SALT YOUR COWS AND YOU WILL HAVE NO TROUBLE IN CHURNING.—A small handful of salt given to cows twice a week seems to act as a preventive against many of the diseases incident to neat cattle. Besides, regular salting in small quantities, saves a great amount of labor at the churr—a *fact worth knowing* to those who have to toil an hour or more to bring a few pounds of butter, and perhaps then of an inferior quality.

Some heifers, which with their first calf give but a small quantity of milk, will, in two or three years, be come good cows.

ANOTHER LARGE IMPORTATION OF CATTLE.

The *Liverpool Mercury*, of April 22d, says :

It is not perhaps generally known that cattle are frequently shipped at this port for America. It appears that English cattle, particularly Shorthorns, are held in high esteem on the other side of the Atlantic, and in some instances almost fabulous prices are given for them, when they are known to have been selected from the stocks of eminent breeders. This state of things has necessarily called into more active requisition that spirit of enterprize for which the American people are proverbial, and large shipments of cattle are made from England to supply the demand in the American markets. The trade is carried on by agents sent to this country for the purpose of attending our principal cattle sales, and making purchases. By the infusion of new blood in the American stock it is anticipated that many of its hereditary defects will be done away with, and the general character of the breed materially and permanently improved.

On Tuesday last an extensive shipment of cattle for this purpose was made at this port by Messrs. Bell, of the Adelphi Hotel coaching establishment. They had previously conducted other consignments of a similar kind. The stock comprised 24 head of Shorthorned cattle and a lot of South Down sheep, all of them being of that high class for which our own country and Ireland are so distinguished. They were purchased at cattle sales and from herds in various parts of the kingdom, and amongst the breeders are to be found the names of Earl Ducie, Sir C. Knightly, Messrs. Booth, Bolden, Fawkes, Townley, Barnett, Fowler, Lindsell, Sanday, and that enterprising Irish farmer, Mr. Christy.

The sheep were from the far-famed flocks of Messrs. Lugar and Webb. The greatest portion of the stock were selected by Messrs. Marshall and Smoot. A fine year-old heifer attracted much attention. It took the first prize for the best yearling heifer at the Royal Dublin Society's Show, against all Ireland, and also won the Challenge Cup of £50 given by Colonel Towneley, of Towneley-hall. A splendid bull, called Vatican, took the first prize at the Royal Agricultural Society's show, held at Lincoln, in 1854. There were several other fine specimens from the herds of F. H. Fawkes, Esq., of Farley-hall, and the above named breeders. A portion of the animals were consigned to Mr. Thorne, of New York, who is well-known here as a celebrated cattle breeder, and more particularly from his having conferred a distinguished honor on this country by selecting two bulls, for which he gave the extraordinary sum of 1000 guineas each. Others are for breeders and farmers in Kentucky.

In addition to the cattle there were some valuable dogs, and a celebrated bay entire horse, "Lord Raglan," a descendant of Beeswing. The whole of the stock has been purchased at great prices. Adding the expenses of shipment, &c., the value of each beast will be considerable more than doubled on reaching its destination—a convincing proof that English cattle maintain a high reputation amongst American breeders. The cattle were shipped in the *Leona*, Captain Norris, for Philadelphia, ample accommodation being provided for them between decks. A quantity of hay, roots, cake, meal, &c., and an abundant supply of water, were put on board for their sustenance during the voyage. Every precautionary measure was taken for their comfort and safety, and we hope they will reach their destination without the slightest accident.

The fittings and arrangements for the shipment were conducted solely by Messrs. Bell, who accomplished their task in the most satisfactory manner. Mr. Strafford, of London, the eminent auctioneer, and editor of the "Herd Book," came down to Liverpool to

see the cattle placed on board the vessel, and expressed his approval of the way in which Messrs. Bell had discharged their duty. There is little doubt that as the facilities at their command and which are offered at this port for shipping cattle become more generally known, this branch of traffic will be largely increased.

EXPERIMENTS IN FEEDING MILCH COWS.

We promised to give the result of different kinds of food used by us in feeding milch cows. The experiments were tried upon three farrow cows during the severe weather of January and February, which accounts for the small yield of milk. They received the whole time what hay they would eat, besides the additional articles mentioned in the table. They were fed four days upon each kind in the order enumerated, receiving four quarts when provender was used, and a half bushel when roots were fed.

Discrepancies occurred in the daily amounts, depending upon the weather and the time of milking, but have generally disappeared when the sum for the four days was obtained.

1. Hay,	76 pounds of milk.
2. " corn and cob meal, 4 quarts,	85 " "
3. " buckwheat bran, 4 quarts,	84 " "
4. " rye bran, 4 quarts,	90 " "
5. " ruta bugas, half bushel,	87 " "
6. " rye bran, 4 quarts,	88 " "
7. " corn and cob meal, 4 quarts,	80 " "
8. " mangel wurzel, half bushel,	91 " "
9. " carrots, half bushel,	93 " "
10. " corn and cob meal, 4 quarts,	100 " "

Owing to the brief period each kind of feed was employed, their relative merits are not fully shown, for the quantity of milk in each case must have been influenced by the one that preceded. One thing, however, is conclusively proved, viz., that grain fed to cows in ordinary condition does not all go to fat, but also affects the milk. One of the periods for meal gives a very low result; another being the highest in the table, by the addition of the three we obtain a fair average. We think the yield of the first period before meal was given was about as it had been since the setting in of cold weather, and that it would have continued to diminish without the extra feed. The extra yield of milk would not alone pay for the extra feed, but some hay was saved, and the condition of the cattle decidedly improved the whole time. There is nothing gained by stinting cattle. If two will eat the food which will sustain three, it is more profitable, commonly, to give it to the two. While some few breeders may injure their animals by too high feeding, this is one of the least of the dangers to which common farm stock is subjected. Neglect here results in the loss of thousands of dollars annually, even in our little State.—*Home-steal.*

ANIMALS BECOME PARENTS TOO EARLY.—Victor Gilbert never allowed ewes to have lambs until they had passed their third year; and the bucks were not used until they had arrived at full maturity. He, as well as many other sagacious stock-raisers, that we might name, are probably conversant with the fact, that during the period of growth and development, up to maturity, the re-productive organs are dormant, while at the same time the nutritive function was wholly engaged in elaborating *chyle* and blood for the development of bone, muscle, and nerve; and that by calling into requisition the re-productive or generative organs, before the animal had attained full growth, must necessarily divert the elements of matter, intended for nutrition, from their legitimate channel, and direct them to the re-productive organs. This is precisely what takes place. A too early use of the purely animal function, induces weakness and stunted growth.—*Am. Vet. Journal.*

CURING HAMS.—At the late Fair of the Maryland State Agricultural Society, the first, second, third and fourth premiums were awarded to hams cured as follows :

1st. To 150 pounds of Ham, take $1\frac{1}{2}$ lbs. saltpetre, 4 quarts of fine salt, with molasses enough to make it a paste—rub well on the flesh side—let it lay 4 weeks—make a pickle strong enough to bear an egg—let the Hams lay in it 4 weeks—then hang and smoke. Two days before removing from the smoke house, paint with black pepper and strong cider vinegar, after which bag them.

2nd. Ham weighing $10\frac{3}{4}$ pounds, cured by Mrs. Sam'l Carr:—Half bushel of salt, 2 pounds of saltpetre, 2 pounds of black pepper, 2 pounds of cayenne pepper, 8 pounds of brown sugar. This mixture, rubbed on 50 hams, averaging 10 pounds, smoked gradually with hickory chips.

3rd. To 100 lbs. ham, to average 10 or 12 pounds, half peck ground alum salt, 1 pound sugar, $1\frac{1}{2}$ oz. saltpetre, 1 quart hickory ashes, 2 ounces salaratus, 2 ounces red pepper; mix them well together, rub the hams well, and stand them on their hocks, and let them remain for 5 weeks, then hang them up and smoke them about 1 week. For 1000 lbs. hog meat, half bushel of fine salt, half a gallon best molasses, 3 pounds of brown sugar, $2\frac{1}{2}$ pounds of saltpetre, pounded very fine. Mix all the ingredients well together in a large tub, and rub the meat then with it until you absorb the whole quantity. The meat must be taken out of the cask once a week, and rubbed with the pickle it makes. The two last times you take it out, add at each time a plate full of alum salt. It ought to remain in pickle five or six weeks, or according to the size of the meat

4th. For 100 pounds of ham, 8 pounds of salt, 2 ounces of saltpetre, 2 pounds of sugar, 4 gallons of water; the ham remaining in pickle 8 weeks.

TURNIPS FOR MILCH COWS.—I wish to say a few words about this root, as I differ with many writers somewhat in my estimate of its value. I have invariably found them to lessen the *quality* of the milk for butter-making, which is with nearly all farmers *the* desideratum in keeping cows. I am satisfied that for those who sell their milk, they may prove a good feed, as they increase the quantity considerably, but the cream will not rise. This spring I took my turnips from the pit to feed my cows, (only two,) as my carrots were gone. I gave a little less than a half bushel a day, and within two weeks they had fallen off nearly four pounds a week in butter, but the milk was sensibly increased. I took the turnips from my cows and gave them buckwheat bran, under which regimen they lessened in milk and increased in butter. As this is my first direct experiment in feeding turnips, I would not like to speak positively on the point until I have given them another trial; an account of which I will furnish you. D.—*Gates*.

MILK REGULARLY.—Cows should be milked at regular intervals of twelve hours, as near as possible, especially during the hot summer months. Cows then feed mostly in the morning and evening, choosing to rest in the cool shade through the middle of the day; hence they should be milked and turned out before sundown.

Rancid butter, it is said, may be rendered sweet and good by churning it in new milk. Try it, and give us the result.

A CASE FOR ORNITHOLOGISTS.—**AN EAGLE HATCHED AND NURSED BY A SHANGHAI.**—About six weeks ago Mr. Robert Cameron, who resides on the Miami river, a few miles below Hamilton, Butler County Ohio, discovered a bald eagle's nest on a huge Sycamore tree standing near the river, and one of his sons, an active and adventurous fellow, by "tall climbing" reached the eyrie, and made a prize of two eggs of the bird of our country, which were at once deposited under a "setting hen," and in two weeks a fine, lusty eagle picked the shell, and made his appearance, with less pain and pomp and circumstance than attended the birth of the "enfant de France." One of the eggs proved a failure, and this, with the eggs of the hen, were thrown away, it being considered that the barnyard fowl would have quite enough to attend to in the person of the feathered "prince imperial," and the chicken and eagle are both, we are pleased to learn, doing as well as could be expected. The plobian nurse-fowl is, we are informed by Mr. Cameron, apparently, at times, very much astonished at the eccentricities of His Royal Highness, the infant bird of Jove, whose keen, unflinching eyes, and stout, sharp, crooked beak, and appetite for fish and flesh, are slightly terrible, and beyond her appreciation. Still she attempts to relieve his wants with true motherly devotion, and in trying to induce him to take a promenade, *clucks* at him vainly by the hour. His legs are not serviceable, and disclaiming to crawl after her, he looks with eager aspirations, as becomes his illustrious race, skyward. He is very fond of fish, and luxuriates in rats and snakes, though he is not yet strong enough to skin them for himself. The quantity of skinned garter snake that he consumes is queer, he being competent to dispose of almost his weight in that article of prepared snake.—*Cin. Commercial*.

EGGS-TRAORDINARY.—The French practical philosophers certainly know how to make the most of things. The rats of Paris supply the ladies with gloves, if not with mince pies; and a Mons. de Sora has recently discovered the secret of making hens lay eggs every day in the year. He feeds them on horse flesh; and obtains his supply of twenty-five or thirty a day, among the used up backs of the city. His *Hennerie*, a few miles from Paris, has furnished about forty-thousand dozen of eggs a week, at the rate of six dozen for four francs, yielding the proprietor for every seven days the round sum of \$5,000, or \$260,000 a year.—Mons. de Sora employs about one hundred persons, mostly females, and his entire expenses are only about \$75,000 a year, leaving him the handsome balance of \$185,000 profit. He never allows a hen to set, and all his chickens are hatched by steam. The eggs are arranged upon shelves and covered with blankets; and each morning a swarm of chickens are taken to the nursery.

HEREFORD BEEF.—The *Tribune* states that a pair of five-year-old Hereford cattle, bred by George Clark, of Otsego county, N. Y., have lately been sold in New York for \$350; that the butcher who bought them says he never had better beef, and that in New York market Hereford beef "will be appreciated hereafter."

FOUL NOSES IN SHEEP.—Dip a small swab into tar, then roll in salt. Put some on the nose, and compel the sheep to swallow a small quantity.



A SMALL BRACKETED COTTAGE.

A SMALL BRACKETED COTTAGE.

In the last number we gave a plan of a very cheap cottage, which could be built here for about \$500. We now present our readers with another, and a very pretty design, the cost of which will be from six to eight hundred dollars, according to the cost of material where it is built. We shall continue to give plans for cottages and farm houses, many of which will be of more value to any person designing to build, than ten years subscription to the *Genesee Farmer*:

This little cottage, with about the same number of square feet as the one given in our last number, is more picturesque, from its irregular form. It would, on this account, be selected by all those who prefer irregular to regular symmetry.

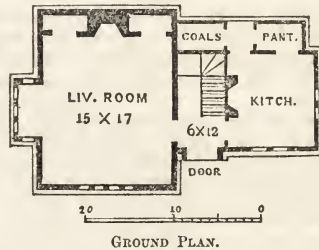
There is also a good deal more *feeling* shown in this cottage than in the last. The features which express this are the bay window, the rustic trellises covered with vines, and the bracketed vine-canopy over the end window in the principal apartment.

Now, every cottage may not display *science* or knowledge, because science demands architectural education in its builder or designer, as well as, in many cases, some additional expense; but *feeling* may be evinced by every one possessing it, and there is no more striking or successful way of manifesting it in a cottage, than by the employment of permanent vines to embellish it. Something of a love for the beautiful, in the inmates, is always suggested by a vine covered cottage, because mere utility would never lead any person to plant flowering vines; and much of positive beauty is always conferred upon simple cottage forms by the graceful growth of vines, through the rural and domestic expression they give to the cottage.

The little rustic arbors or covered seats on the outside of the bay window, may be supposed to answer, in some measure, in the place of a veranda, and convey at the first glance, an impression of refinement and taste attained in that simple manner so appropriate to a small cottage.

The plan of the first floor of this cottage shows an entry, six by twelve feet, containing a flight of stairs

to the chamber floor, under which are stairs to the cellar. On the left is the living room of the family, fifteen by seventeen feet. The deep chimney breast at the end of the room gives space for two large closets. The bay window measures six feet in the opening, (in the clear,) and is three feet deep.



GROUND PLAN.

On the right of the entry is the kitchen, a small room, ten by twelve feet. As the living room of the family will, in a great measure, be also the kitchen, this small kitchen will in fact, be used as a *back* kitchen for the rough work, washing, etc., so that in summer, and, indeed, at any time, the living room can be made to have the comfortable aspect of a cottage parlor, by confining the rough work to the kitchen proper. Back of this kitchen is a small lean-to addition, containing a small pantry, four by six feet, and a place for coals. There is a small passage between this closet or pantry and the coal hole, and opposite the door opening from the kitchen into this passage is a door which serves as a back door to enter the kitchen without going in the front entrance.

The chamber floor has two bed rooms, each nine by fifteen feet, and one bed room ten by twelve feet.

This plan may be easily varied, so as to give a more agreeable and symmetrical effect, with little additional cost. To do this, lessen the depth of the chimney breast at the end of the room, and reject the two closets there. This would make the living room two and a half feet longer, or fifteen by nineteen feet six inches. Next, place the bay window exactly in the

centre of the wall, which would add to the external symmetry. By turning the place for coals into a closet, with a door opening into the living room, and having a wood house or coal house detached, space would be gained, and the arrangement would be more pleasing, though perhaps, not quite so convenient.

The construction of this cottage is the same as that in last number. Planed and matched, or rough boards may be used for the vertical weather boarding; we should prefer to have them rough, if the cottage is filled in, and painted and sanded.

We have shown in this cottage, the simplest form of cottage window—that is, the casement window, opening in two parts from top to bottom. These sashes are less expensive than rising sashes, with weights, but more so than those without weights. The latticed sash with diamond panes we have introduced as more significant of a cottage. Indeed, there is something in the associations connected with latticed windows so essentially rural and cottage-like, that the mere introduction of them gives an air of poetry to a house in the country.

The chimney tops are built of brick, in a very simple, but at the same time, more tasteful manner than the heavy brick stacks usually seen.

The front door is merely covered with a hood on brackets. Its beauty would be enhanced by making this canopy or hood bolder, and extending it five feet, making the sides of lattice work, and covering the whole with vines.

THE PROSPECT.

The restoration of peace in Europe has already had a tendency to lower the price of breadstuffs in the United States. The best qualities of flour have fallen three dollars per barrel, and inferior qualities in a corresponding ratio. Prices will probably be still further reduced when the navigation of the lakes and canals is fully opened. The grain which for three years has been accumulating in Russian ports will now be hurried to the English markets. The countries whose trade has been suspended by war, will be anxious to resume their commercial intercourse with the western European nations. Under these circumstances, we see no prospect of an extensive foreign demand for our agricultural products. Still we do not expect extremely low prices. With the good degree of activity in our manufacturing classes which now prevails and bids fair to continue, there is no fear that the prices of breadstuffs will be brought below a price that will fairly remunerate the producer, under the ordinary yield of crops. The extraordinary prices which have prevailed during the last year or two, could not be supposed to be permanent; they were based on an unnatural state of things. They have had in some respects an injurious tendency. They have stimulated gambling operations among dealers, by which the consumer has been forced to pay exorbitantly for the means of supporting life, while the producer has not received a proportionate benefit—a large portion of the profits accruing to the dealer. Some of this class, however, will now suffer the consequences of their mercenary and selfish conduct in the great decrease in the value of stocks on hand. The war prices have also stimulated reckless speculations in western lands. Prices have been carried beyond what the lands are intrinsically worth, and under the sober and reasonable system which universal peace will bring in, a reduction may be anticipated. Yet the natural and constant growth of the country will be sufficient to maintain living prices of property and produce; and

though the extravagant promises of speculators may not be realized, the honest working man need not fear that his labor will fail to receive a fair reward.

As to the crops of the current year, no positive statement can, of course, be hazarded at present. We hear nothing unfavorable to wheat, from any quarter. The winter was hard on fruit trees, at the south-west, and considerable injury is said to have been done to pear, peach and other species of trees. Considerable loss is said to have been suffered in the death of cattle and other domestic animals, in some sections, by the severity of the weather. But this may prove a blessing by teaching the owners that it would be for their interest to do what, from the principle of humanity, they should have done before—provide shelter and suitable food for their stock.

In this section of the country, the great body of snow went off wholly by sunshine. Of course it went slowly, allowing its ammoniated water to percolate through the soil. We have had abundant rains since the middle of April, and though the temperature has been low, grass is remarkably well set and has a very promising appearance. Other vegetation, however, is backward, and from the general wetness of the soil, the spring work of the farmer is somewhat delayed:—Should the weather be moist through June—which is always an indispensable requisite of the hay crop in this latitude (in America)—hay will probably be more abundant than for several years.—*Boston Cultivator.*

THE SEASONS LATER THAN FORMERLY.

In a conversation with a young gentleman of your city, I stated that the seasons,—particularly the spring—were not as early as formerly. He thought I must be mistaken. Now I will show you my opinion and on what that opinion is based. Thirty-three years ago last March, I came into this country from the banks of the Hudson. At that time the ground was covered with snow but there was no frost in the ground. All our spring's work was done during the month of April, except planting corn and potatoes; these were finished by the tenth of May. I could name persons in the town of Wheatland who for several years invariably planted their corn in April. The next year, most of the oats and barley grown in the town of Rush were sown during February or March, and for quite a number of years there was neither barley nor oats sown as late as the month of May, except some pieces for late crops to be cut green. Haying was done during June sufficient to put in the bottoms of bays to store wheat on; and invariably within a few days after our Fourth of July jubilee, (on which day we had our first mess of green corn and new potatoes,) we commenced harvesting our wheat, which in those days *was* wheat.

At a future time I may give you some more proofs of the changes of the seasons and the consequences, but I shall not touch on the causes of such changes. D.—*Gates.*

MECHANICS IN THE WEST.—The *Prairie Farmer* says: "The Eastern papers are complaining that mechanics are leaving there for the West. The demand for their work here is great; the pay is good, and cash down, and is costs but little to reach the West now. A thousand or more mechanics are wanted, at good paying wages, in Chicago alone, and then there are scores of thriving towns all over the State where help is needed, and all kinds of work finds ready and ample demand. Come West and say you want work, and at it you can go at once."



Horticultural Department.

HORTICULTURAL HINTS FOR THE MONTH.

The Summer management of fruit trees is a subject too important and too extensive to be discussed in our limited space this month. Every year witnesses great improvements in the cultivation of all kinds of fruit, and we are glad to perceive that there are thousands of intelligent farmers, in all sections of the country, who manifest some degree of interest in this matter, and are beginning to realize that few subjects are more worthy of their attention. Still it must be confessed that good cultivation is the exception, and an unprofitable and shameful neglect the rule, among the generality of fruit growers. How many trees are planted every year in grain or grass, and left to wither and to die? How many are planted without judicious pruning, without due preparation of the soil, without mulching, or that cultivation of the land which is necessary to insure the vigorous growth of all the superior kinds of fruit trees? We have met with individuals who appear to think that the best way to secure good fruit, is to allow the trees to take their *natural* growth. This is a great mistake. Fruit trees are not, strictly speaking, in a natural condition. "Our garden varieties of fruit," says the lamented DOWNING, "are not natural forms. They are the artificial productions of our culture." * * *

"Transplanted into a warmer aspect, stimulated by a richer soil, reared from selected seeds, carefully pruned, sheltered and watched, by slow degrees the sour and bitter crab expands into the Golden Pippin, the wild pear loses its thorns and becomes a Bergamotte or a Beurre, the Almond is deprived of its bitterness, and the dry and flavorless Peach is at length a tempting and delicious fruit." These results are the work of ART. Our fruit trees are in an artificial condition, and require artificial treatment. Left to themselves, they soon deteriorate, and ultimately return to their natural, or wild state.

SUMMER PRUNING.—Those who advocate "leaving trees to themselves" during the summer, generally resort to heavy pruning the following winter or spring. This removal of large branches promotes an increased growth of wood, and retards the production of fruit; whereas, it should be the object of the cultivator to retard, within certain limits, the growth of wood, and to increase the size, flavor and quality of the fruit. "Without summer pruning," writes an eminent pomologist, in one of the back volumes of the GENESEE FARMER, "we would greatly prefer to have trees left entirely to themselves, during the whole season. It

would not only be a great saving of labor, but more favorable to the health, longevity, fruitfulness and beauty of the tree." When once understood, summer pruning soon becomes the most fascinating employment in the garden, and is really one of the most useful and important branches of the science and art of tree culture.

The accompanying figure (Fig. 1) of a side branch of a pear tree will enable the reader to form a tolerably correct idea of what we mean by summer pruning. This branch had been shortened in at the winter or spring pruning, and below the leader two shoots, *a, a*, are produced, which are not needed in the body of the tree. These should be



Fig. 1.

Fig. 2.

pinched off at *b, b*, leaving only three or four buds.

The sap has always a tendency to flow to the extremities of the shoots, to the material injury of the branches in the body of the tree. Pinching off the growing points concentrates the sap in the lower parts of the shoot, and converts it into a fruit branch.

Pinching may be done at any time after the shoots have acquired sufficient length. Vigorous trees, in rich soils, when pinched the present month, not unfrequently start out again where the shoots were pinched off, and it is necessary to repeat the operation. On this account, some prefer to delay pinching till the latter part of July or beginning of August, and then, instead of pinching off the shoot, to break it down, as at *a*, Fig. 2, leaving it to hang on the tree for a week or two, and then cutting it away with a knife. In this way the sap is not checked so suddenly, and the remaining buds are not so liable to push into wood.

All superfluous or awkwardly placed shoots should be pinched or rubbed off while soft. If allowed to remain till the end of the season, and then pruned off, a portion of the sap and force of the tree have been uselessly expended, and the foundation laid for future crops of similar productions.

GRAPE VINES.—Grapes delight in a dry, loose, warm soil. In fact, they will do well in no other.—They require, however, an abundance of food, and evaporate from their leaves an immense quantity of water. The most favorable circumstances for the production of grapes, then, consists in a warm, dry soil, made rich by manure, and artificially supplied with water during the formation and early growth of the fruit. The two last conditions can frequently be supplied together by the use of liquid manure. A teaspoonful of Peruvian guano to a gallon of water forms a liquid manure that has no superior for grape vines. If there is an abundant supply of water, we should prefer to lessen the proportion of guano. We have but little conception of how extremely dilute is the true food of plants. Experiments made at Rothamstead to determine the amount of water given off by plants during their growth, show that the wheat plant evaporates 3111 grains of water for every grain of mineral matter taken up from the soil, and 268 grains of water for every grain of carbonaceous matter organized in the plant. In barley, peas, beans and clover, the quantity of water given off, *in proportion* to the amount of food taken up, is somewhat less than with wheat, but the lowest figures

(with red clover) are 1884 grains of water taken up and evaporated through the leaves, for one grain of mineral matter. Liquid manure, then, should be exceedingly dilute. Another point, too, should not be lost sight of. Plants, it is believed, do not take up food that it is even partially *organized*. For instance, they do not take up humus or urea. These carbonaceous and nitrogenous compounds must be reduced by fermentation to carbonic acid and ammonia, before they are proper food for plants. Every gardener knows that the fresh liquid of the cow or horse stable will kill his plants; but the same liquid, after it has undergone fermentation, can be applied, not only with impunity but with decided advantage. We believe that those who use guano in solution would find it advantageous to have a tank or hogshead in which the liquid could remain a few days to ferment before being applied to the plant. If as dilute as it should be—owing to the strong affinity of water for ammonia—no loss of this “spirit of the farm” need be apprehended from fermentation.

Any extremely dilute, fermented, liquid manure is good for vines, and may be used with advantage in large quantity. It does not require much time or labor to throw half a dozen pailfuls of water, once or twice a week, on all the grape vines generally found in most farmers' gardens, and certainly the benefit resulting from it will astonish all who have been in the habit of leaving the vines to “take care of themselves.”

This leads us to another important subject, in reference to the management of the grape—*Summer pruning*. “What!” says one, who injured his vine last year, by cutting off nearly all the leaves—“you surely don't recommend summer pruning!” Not as you understand the practice. No sensible man would dream of removing the leaves—the *lungs*, as they have been somewhat fancifully called—of plants. But summer pruning, properly understood and practiced, is of great advantage. The whole force of the vine should be directed to the sustenance of the fruit, and the necessary shoots for training and bearing the following year. To this end, all superfluous shoots should be rubbed or pinched off in May or June.



After the grapes are formed, the bearing shoots should be shortened in by pinching them off two or three eyes beyond the fruit, as shown in the accompanying figure. It is not well to pinch too close to the bunches. Some prefer to delay this operation till August or September, and then to break down the shoots and let them hang on the tree in the manner we have described for fruit trees in a preceding article.

LAYERING THE CARNATION.—The present month, or just as they go out of bloom, is the time to attend to the propagation of the carnation by means of layering. Strip off the leaves as far as it is necessary to imbed them in the ground; cut off an

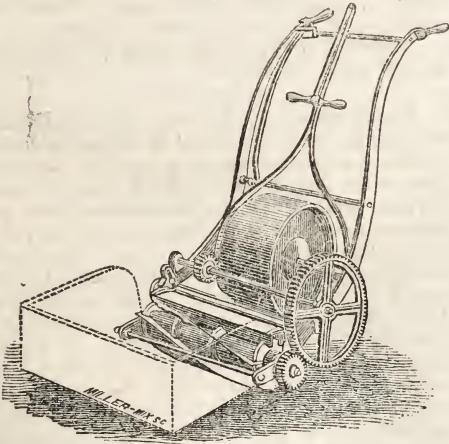


inch or so from the ends of the leaves; then cut the stem below a joint, half through, turn the knife upward and slit the stem to the next joint above; cut off the small portion remaining below the joint where the incision was made, clean to the joint, and then bend the stem into the ground and peg it down; draw the earth around it carefully, and so as to leave the head of the layer in as upright a position as possible. A gentle but thorough watering completes the operation. Roses should also be propagated in this way, shortly after they are out of bloom. The accompanying cut of a carnation layer will give a good idea of the operation of layering in general.

AMMONIA IN GREEN-HOUSES.—It has long been known that the ammonia arising from fermenting manure, leaves, &c., in green-houses was very beneficial to grape vines and all other plants. The recent experiments of M. VILLE have called more particular attention to this subject, and gardeners are very generally acting upon his recommendation of supplying green-houses with an artificial supply of carbonate of ammonia. Instead of purchasing the carbonate of ammonia from the druggist, the gardener can make it himself with ease, and at very much less cost. Some gardeners supply their green-houses with ammonia by scattering Peruvian guano on the floor. This certainly accomplishes the object, but it is a wasteful practice. Peruvian guano contains some sixteen per cent. of ammonia, but not more than one per cent. of it is in the form of a carbonate, the remainder, in a sound guano, being principally in the form of urate of ammonia—non-volatile salt. We do not, therefore, get more than one-sixteenth the amount of ammonia from the guano that it is capable of yielding. This urate of ammonia is readily changed into the volatile carbonate of ammonia, by allowing the guano to ferment. Take a pound of guano and add half a pint of water to it, and it will soon ferment in a warm green-house, and furnish all the ammonia required. Mixing

quick-lime with guano will drive off ammonia, but in this case caustic ammonia—not the mild carbonate—would be formed, and it might prove injurious. If guano cannot be obtained, any highly-nitrogenous substance, such as hair, woolen rags, scraps of hide, &c., will answer the purpose. Place some of them in a pail, and mix them with a few unleached ashes, and moisten the whole with water, and they will soon ferment and furnish the green-house with all the ammonia required.

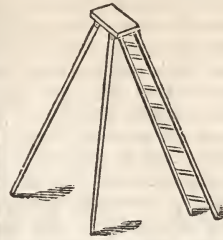
MOWING GRASS PLOTS OR LAWNS.—Nothing adds so much to the appearance of a house or garden as a green, velvety lawn or grass plot. Few things are more difficult to obtain in our dry, hot, dusty summers. There is, however, no insuperable difficulty in the way. Intelligent care and attention will be amply rewarded. American travelers admire, and justly, the grass plots and lawns of England; but few of them realize the immense amount of labor required to keep them in such fine order. They are generally mown once a week, and in growing weather (growth is never so rapid as in this country) not unfrequently twice a week. In fact, no matter how well the soil is prepared, nor how good the turf, nor how judiciously screened from dust and the burning rays of the sun, all will fail to furnish a good lawn, without the frequent use of the scythe and roller. The grass should never be allowed to get an inch high. The labor of sweeping off the grass may be avoided by the use of a daisy rake.



The machine represented in the accompanying engraving has been used in England for mowing lawns for upwards of twenty years, and gives very general satisfaction. A similar machine, with some additional improvements, is made by H. N. SWIFT, of Fishkill Landing, N. Y., which is well spoken of by those who have used it. With the general introduction of this machine, we may expect to see a great improvement in the management and appearance of our lawns and grass plots; for the English machine—and we presume the same is true of the American—can be used to advantage only on a smooth lawn and short grass.

SELF-SUPPORTING LADDER.—To carry out the system of summer pruning we have recommended, a self-supporting ladder is indispensable, especially if the trees have been neglected in previous years. For gathering fruit, too, they will be found exceedingly

useful. No garden should be without one. Any farmer can make such an one as that shown in the accompanying cut, in an hour or two. The steps should



be wide enough to be stood upon conveniently. The legs move on a joint. Sometimes they are made with a single prop, but two legs are far preferable, imparting strength and stability. An upright piece at the top is convenient to hold by. It should be made of light material, so that it may be carried about with ease.

FRENCH PINE ON WASTE LAND.

At a recent meeting of the Council of the Royal Agricultural Society of England, Mr. GREGE furnished an interesting account of the cultivation of Pine trees (*Pinus maritima*) on the sandy hills of the sea coast of France, stating that he had grown with success the same species on his own estate in Cheshire, England.

In an interesting article on "Tree Planting in Nantucket," in the *Boston Cultivator* of May 10th, E. W. GARDNER states that the "French Pine" succeeds far better than all others, and that he has no doubt "that every acre of the thousands of barren waste lands, lying unused and almost worthless, may, by planting with the French Pines, become in twenty years worth eighty dollars per acre, and beautifully ornament our island. (Nantucket.)

The *Pinus maritima* has long been extensively cultivated on the waste lands in France, and is particularly calculated for sowing on the sand hills on the sea coast, as it is one of the few of the tribe unaffected by the sea breezes. The mode of culture consists in breaking up the surface and sowing about 20 lbs. of seed to the acre. It vegetates quickly and well, and the plants come up very thick, and are thus drawn up very straight.

When about the thickness of walking-sticks, they begin to thin them out. The first use made of them is to support the vines, there used as fences for the railways, and put to different purposes till they reach fourteen years' growth; by this time they stand at regular distances, and are called upon to pay their yearly rent. This is done by a strip of the bark being taken off about the width of the hand and seven feet high. In the summer, the turpentine exudes from the wound, and is scraped off as it forms; the following year another strip of the bark is removed, and so on every year till they come round to the part from which the bark was first removed; by this time the sore is healed, and they begin to tap it again. It is considered that each tree pays about 5 cents a year; and this land, which twenty years ago might have been purchased at 20 cents an acre, is now worth 16 dollars. The French Government sow extensive tracts of these wastes every year, and it is considered that the timber is benefitted rather than injured by the process, and found to be harder than those trees that have not been tapped.

WHENEVER you see a caterpillar's cocoon in your orchard, pull it off the tree and trample on it. If above your reach, use a light pole.

TWO BEAUTIFUL FLOWERING SHRUBS.

THE BRIDAL WREATH SPIREA—*Spirea prunifolia flora pleno*, or double-flowering, prune-leaved spirea. This splendid little shrub was introduced into England from China, in 1846, and has since been pretty generally circulated. It is perfectly hardy. A good plant is truly a magnificent object. We have a fine plant now in full flower on the lawn. It is about four feet high, and three in diameter, and every branch is literally a wreath of white flowers, from one to two feet long. Its flowers are produced on wood of the previous year's growth, and every bud produces a bunch of pure white flowers, with a little tint of green in the centre. It comes into flower about the middle of May, and continues two or three weeks in bloom. Its flowers are full and double, and resemble a little the flowers of the double-flowering white thorn. The flowers are produced before the leaves, which begin to make their appearance when it has been in flower about a week or ten days.

This beautiful Spirea is of the easiest possible culture, requiring only to be planted in a soil that is not too wet, and to be kept clear of weeds and other rubbish. It is easily multiplied by division of the roots, and cuttings of the young wood, three or four inches long, inserted in pots of equal parts of leaf mould and clean lake sand, and placed on a gentle bottom heat in a hotbed, and shaded from the sun, root freely. To make a handsome plant it requires two or three pinchings in of the young and most vigorous shoots, at intervals of two or three weeks during the growing season. It is one of the easiest forcing shrubs we have, not excepting, perhaps, the Forsythia Veridissima itself, coming in flower in ten or fifteen days after insertion in the forcing-house.



THE GARLAND SPIREA.

THE GARLAND SPIREA—*Spirea lanceolata*.—This is a beautiful, hardy shrub, flowering the present month, and growing to the height of from three to five feet, with slender elegant branches, which, being slightly pendulous, give it a very graceful appearance. Its wood is nearly black, with long spear or lance-shaped leaves; hence its name. Its flowers are produced on the wood of the previous year's growth, ev-

ery bud producing a bunch of flowers, on stems of from three to five inches long, each separate piece making a beautiful little bunch of flowers for a bouquet, and the whole branch making a complete garland, of snowy whiteness. It is very beautiful in any situation. It is very showy and effective as a shrubbery plant, but it is more beautiful when grown by itself on the lawn. When grown as a single specimen it requires two or three pinchings-in, at intervals of about two or three weeks during the growing season; that is, when one shoot grows stronger than another, or out of place, or out of shape, it requires to have its top pinched out between the fingers and thumb, which checks its growth and throws the force of sap into the weaker branches. By this means any one may make as symmetrical a plant as was ever seen. It is also a beautiful plant for the green house, in winter or early spring. It goes not bear forcing well, so early as December and January, but from the middle of February to the end of March, it can be had in great perfection; when white flowers are very scarce.

These Spireas ought to be more generally known and grown. They are old enough, and have been in the country long enough, to be as common as blackberries, but they are not. If a demand was manifested, they could be produced almost as cheaply as any hedge plant, and where small hedges are wanted around a door yard or about a flower garden, or by the sides of walks, what could be more charming or have a greater effect than a hedge of such snowy whiteness all through the month of June?

It is easily propagated by layers or cuttings of the young wood. J. SALTER.

FERTILIZER FOR THE GARDEN.—*Messrs. Editors:*—Having had some experience in the use of Peruvian guano as a fertilizer for the garden, the communication in the May number of the *Genesee Farmer*, on "Home made Guano," or hen manure, leads me to suggest to such of your readers as have any of this manure, and who may desire to raise fine vegetables in their gardens, that they collect it, dry it in the sun, and beat it into a powder. Then, either before or after planting the seed, scatter a small quantity broadcast over the surface of the ground. If the plants are up, and have been sown in rows, scatter the manure between the rows; and if the ground be dry, water the plants, that the manure may be conveyed directly to the roots. It will cause the plants to grow rapidly, and very large, and in many cases will preserve the plants from worms and enable them to withstand drouth. If you wish to apply the manure at the time of transplanting, put about half a tablespoonful in the hole beneath each plant, with a little earth between, as immediate contact with the plant might prove injurious. H. E.

THE CURCULIO.—A reward of \$500 was offered by the Kentucky Horticultural Society at its meeting in Louisville, last week, to the discoverer of a certain and effectual remedy against the curculio. Said remedy not to be so costly or troublesome as to prevent general application.

THERE is nothing which makes a farm look more agreeable or pleasant than a neat cottage, surrounded with a handsome lawn and well planted orchard and flower garden.



CULTIVATION OF THE HYACINTH.

This is the fabled (and famous) Asphodel of the Greeks, from *asphodelus*—ashes, so named because it was formerly planted on the graves of the dead, to nourish their manes, or souls, as its properties are acrid and stimulating; and it was one of the flowers of the Elysian Fields:

"Angels saw I, to their bowers
Bearing home their sheaves of flowers,
And could hear their anthems swell,
Reaping in the Asphodel."

There are all hues, from white to the deepest crimson and purple. These latter were preferred by the ancients as most faithful to its mythology, being regarded by them as the blood of HYACINTH, the beautiful youth, beloved and killed by APOLLO, whose quiver was turned aside, causing his friend's death, by ZEPHYR, the west wind, who was piqued by the god's preference for HYACINTH. APOLLO changed his blood into the flower bearing his name, on whose bells are dots, resembling *Ai! Ai!* APOLLO's Greek notes of grief—

"Stamped on thy leaves, my cries thou shalt repeat."

—OZELL.

A festival called "Hyacinthia" was annually celebrated for three days, at Sparta, in honor of APOLLO and his favorite HYACINTH, their king's nephew.

The *blue* (field) Hyacinth tinges the meadows of England about St. George's Day, and is thought to afford an emblem of the deep blue *sea*, over which England assumes the rule.

Yellow varieties are so faint in hue that they have to be placed always with *white*, for the benefit of contrast.

The Holland florists have already produced nearly eleven hundred varieties, although the root is not in-

digenous to the country. The *saline* atmosphere of Haerlem is supposed to have greatly aided in this result, hence *salt* is recommended to mix with their culture, in inland gardens at considerable distance from the sea. They are grown yearly in immense quantities from the seeds, which, however, require four years for flowering. Seeds, of course, are taken from the single flowers, the best specimens of which should now (June) be chosen for this purpose, and the remaining flowers cut from the stalk.

They are mostly raised from bulbs, which must be planted eight inches apart, and covered with four inches of clean sand. The colors should be alternated, if beds are devoted to them, and beds should be no more than four feet wide, admitting five rows. For great perfection the soil should be prepared two feet deep with sand, compost, fresh earth, &c. They will remain very pretty for two or three years, if not re-set.

If they are to be re-set, they should be taken up before the next year's buds begin to grow or form—about the last of June, when the foliage turns yellow,—the flower stems cut off, the fibres will dry and rub off, if the root is turned up. When they are ripened and cleaned, those that have no little spots of decay upon them may be wrapped in papers of sand, or saw dust, to be kept till October or November, the best time for planting. Later, although they are hardy, a light covering of leaves, straw or hay, will keep the blooms more beautiful. Decay is contagious to sound roots, and all spotted bulbs must be rejected as refuse. Good bulbs can be purchased at from six to ten dollars per hundred, though the period has been when two hundred pounds were offered for a single root. They are within the reach of all, and reward the little care required for their cultivation, by a *month* of bloom and beauty, and classic association, and fragrance, when Heaven puts on the blue of May.

CULTIVATION OF THE SMALLER FRUITS.—EDS. GENESEE FARMER: The cultivation of the smaller kinds of fruit, such as strawberries, raspberries, gooseberries, and currants, aside from the great luxuries they afford for the table, can be made quite profitable.

For strawberries, the soil cannot be made too rich, and the more pains there is taken with them, the finer will be the fruit, both in size and quality. This fruit is among the first that adorns our table. The luxuriant growth of the pines, and the rich, melting flavor of the fruit, entitle it to the highest esteem.

In order to get good raspberries and gooseberries, care must first be exercised in their selection, and then in keeping them free from grass and weeds. This will cause the vines to grow solid. Prune with reference to bearing shoots. It is customary, however, to cut out a portion of the old canes every spring. They must not be allowed to grow too thick, or too near each other, as it impairs the quality of the fruit.

The currant should occupy a prominent place in every garden. It is hardy and easily propagated, and the fruit forms a palatable dish, either green or ripe, when properly prepared.

We do not recommend letting them grow among the grass especially until after the plant, has been set three or four years. W. MICH.—May 15, 1856

THE FORSYTHIA VERIDISSIMA.

THE *Forsythia Veridissima* is, I think, one of FORTUNE'S discoveries. It was introduced into England from China in 1845, and named in honor of Mr. FORSYTH, the celebrated gardener and writer on Horticulture. In England it is a hardy, deciduous shrub. In this country it is not quite so hardy, but decidedly deciduous, sometimes losing branch and all as far down as the wood is unripened. But it has stood the last two winters here almost with impunity, having only a few inches of the unripened wood killed. I think it is hardy enough to be very desirable as an early, spring-flowering shrub. There are now growing in Messrs. H. B. HOOKER & Co.'s nursery, some ten or twelve fine plants, and flowering profusely, which have stood there in the most exposed situations for the last five or six years. It stands exposed and unprotected beside the osage orange, and is quite as hardy. I have a fine plant growing right at the south-west corner of my house, fully exposed to the bitterest southern wind, which, perhaps is the very worst position for any late-growing, hardy shrub, unprotected with straw or other covering. It is uninjured, save a few inches of the unripened tips, which is of no material consequence, as it requires to be pruned back eighteen inches to two feet. It is flowering profusely. It has stood there three winters.

All late-growing, hardy shrubs, when exposed to the winter sun, should always be protected with a little straw or other covering, for they are so very excitable that a few bright, mild days in winter sets all the sap in circulation, and a sudden depression in the atmosphere (a severe frost at night after a bright day) freezes and bursts all the sap vessels; consequently, in spring, when it should put forth a vigorous and healthy growth, the whole structure of the plant is ruptured and debilitated, whereas, if it had had the slightest kind of shade, it might have stood unharmed.

Forsythia Veridissima, if not absolutely indispensable, deserves, at least, a trial in every garden. It is the earliest of our spring flowering shrubs, and its profusion of bright yellow flowers are very beautiful; and their coming out before its leaves, renders it very conspicuous and desirable. A temperature of 60° will bring it into flower in any of the winter months.

It is a very desirable plant as a pot plant in winter. Any lady who is fond of her flowers, can have it taken up and potted in moderately good earth any time before winter sets in, and placed in the cellar, or anywhere where it does not actually freeze, and supplied occasionally with a moderate supply of lukewarm water, and it will flower; and when in flower, it is very ornamental for the drawing-room, when other flowers are so very scarce. It is easily propagated by cuttings and layers. Its time of flowering, in England (out of doors), is February; here it is from middle of April to middle of May. J. SALTER, Gardener to John F. Bush.—*Rochester, N. Y.*

TIE UP YOUR FLOWER STEMS.—Almost every plant is prettier for having its stalk supported. Large ones should be tied two, three, or even four times, to keep them from being boxed and cuffed by the wind. Slender iron rods are recommended by various writers as very durable and cheap. If neatly painted green, they attract no attention, and never rust. Pink, especially, should be supported.

PRUNING EVERGREENS.—The *Horticulturist* says: "It is a question not often mooted, whether evergreens do or do not require the same cutting back as deciduous trees, when removed. Our own experience indicates that a slight trimming is useful. The mode of operation on the Norway Fir, for instance, is this: Cut back the limbs of last year's growth, using the dissolved shell-lac on cuts, and leaving the leader untouched. The effect is the same as that on deciduous trees, with this additional advantage—the plant throws out two, probably more, leading limbs, and the result is that of thickening the growth and improving the appearance. For the sake of experiment, we carried this system to as great an extent, with a single specimen, as possible; ere many years elapsed, the limbs became so heavy with numerous branches, that they broke with their own weight. Others, cut back once in three years, have attained rare beauty and a close habit."

NAMES WRITTEN WITH FLOWERS.—A pleasant little surprise to children, the memory of which they would carry to their graves, would be to see their names written in tender green leaves on the fresh earth. This is often done by drawing the name with a stick, in a smoothly raked bed, and sowing the seeds of some annual in the shallow furrow. If the seeds are soaked in water for a few hours, and covered but lightly with the soil, the name will appear almost before the weeds, which must of course be kept out. June is rather late for sowing annuals, but they might be transplanted from other beds while they are small and of uniform size, and produce the effect at once. An eminent man once described a discovery of this sort as a landmark of peculiar happiness in his boyhood.

TO KILL INSECTS ON APPLE TREES.—The *Farmers' Encyclopadia* says:—"Insects upon apple trees may be killed by clay and water made as thin as white-wash, and mixing with every six gallons of it, two pounds of cream of tartar, one pound of soft soap, and half a peck of quick lime. When you think that the weather is likely to continue dry for some time, take a bucket-full of this mixture, and with a large brush, wash over the bark of the trees, wherever you think it has been infected with the bug. Care must be taken to apply it in dry weather."

COLORING PLATES IN THE HORTICULTURIST.—The *Country Gentleman* says:

"In noticing this number of the *Horticulturist*, we should not forget to mention the beautiful colored plate, representing two new and splendid varieties of the Fuchsia, which exhibit so brilliant a combination of rich colors, that a little five-year child, on seeing the picture, exclaimed, 'Oh! that is handsomer than apples or plum-cake.'"

THE *Ohio Farmer* estimates from statistics of the Horticultural Society, that there are two thousand acres of Catawba vines in cultivation in the vicinity of Cincinnati, of which 1,000 acres are in full bearing. By the average production of the last few years this area of vines will yield 500,000 gallons of wine, which yield must, in a short time, be doubled. The demand for the wine is increasing faster than the supply.

Ladies' Department.

THE ARROW AND THE SONG.

The following song has the strong recommendation that it is Mrs. BROWN'S favorite among the poems of LONGFELLOW:

"I shot an arrow into the air,
It fell to earth I know not where;
For so swiftly it flew, the sight
Could not follow in its flight.

"I breathed a song into the air,
It fell to earth I knew not where;
For who has sight so keen and strong,
That it can follow the flight of song?

"Long, long afterward, in an oak
I found the arrow, still unbroke;
And the song, from beginning to end,
I found it again in the heart of a friend."

THE OLD HOMESTEAD.

When'er the happiest time is come
That to the year belongs,
Of uplands bright with harvest gold,
And meadows full of song—
When fields of yet unopened corn,
And daily garnering stores,
Remind the thrifty husbandman
Of ampler threshing floors;
How pleasant, from the din and dust
Of the thoroughfare aloof,
Seems the old-fashioned homestead,
With its steep and mossy roof.

When home the woodman plods, with axe
Upon his shoulder swung,
And in the knotted apple tree
Are scythe and sickle hung;
When light the swallows twitter
'Neath the rafters of the shed,
And the table on the ivied porch
With decent care is spread;
The heart is light and freer
Than beats in populous town,
In the old-fashioned homestead,
With gables sharp and brown.

When the flowers of summer perish
In the cold and bitter rain,
And the little birds with weary wings
Have gone across the main;
When curls the blue smoke upwards,
Up towards the bluer sky,
And cold along the naked hills,
And white the snow drifts lie;
In tales of love and glory,
Is forgot the cloud and storm,
In the old-fashioned homestead,
With hearthstone large and warm.

PROVERBS.

A correspondent of the *Homestead* furnishes the following Proverbs, which are good at all times and worth remembering:

"Silks and satins put out the kitchen fire;" and here follow a few others. "A stitch in time saves nine." "Too many cooks spoil the broth." "Light heeled mothers make heavy heeled daughters." "Contrivance is better than hard work;" or "One good planner is better than two workers." "Many hands make light work." "A fat kitchen makes a lean will." "Cut your coat according to your cloth." "Nothing venture, nothing have." "Elbow grease is the best polish." "Hunger is the best sauce." "Lazy folks take the most pains." "The proof of the pudding is the eating." "The sweetest wine makes sharpest vinegar." "You can't eat your cake and keep it." "There's no making a silk purse of a sow's ear." "An apple an egg and a nut, you may eat after a slut." "Easy teaching the cat the road to the kirk." "Who goes a borrowing goes a sorrowing." "Every crow thinks its own young the whitest." "A scalded dog dreads cold water." "May-bees are not aye honey bees." "Gie a bairn its will and a whelp its fill, an'

baith 'll gae to the de'il." "Keep your breath to cool your porridge." "The foot on the cradle, the hand on the reel, is a sign that a woman means to do weel." "Wilful waste makes woful want." "Lose an hour in the morning and you may run after it all day without catching it." "Every herring must hang by its own head." "Rich harvests make men prodigal, poor ones provident." Measure twice, cut but once." Quick to hear and slow to speak." "Cool in the same skin you heat in."



DOMESTIC FLOWER STANDS.—The effect of parapet walls and marble vases, and other expensive devices that adorn the pateres of wealth, may be pleasantly and economically imitated by mounting old barrels sawn in halves, boxes, pails, &c, on mounds of earth, or on carved feet, or rural standards, such as twisted boughs. If these receptacles are neatly painted, and half filled with rubbish first, to prevent their being too heavy, then with two feet of mould, they will accommodate all common roots and bulbs; and with creepers falling gracefully over their brims, will present a picturesque and charming appearance, and could be cared for by ladies who are deprived of the pleasure of flower culture by the fatigue of bending over the beds. It is, too, easy at any time to shelter them from frost and storms.

HOW TO MEND CHINA.—From an English Almanac we cut a recipe for mending china, a long time since, and the opportunity having occurred for trying, we found it admirable, the fracture scarcely being visible after the article was repaired. It is thus made: Take a very thick solution of gum arabic in water, and stir into it plaster of Paris until the mixture becomes a viscous paste. Apply it with a brush to the fractured edges, and stick them together. In three days the article cannot be broken in the same place. The whiteness of the cement renders it doubly valuable.

Editor's Table.

SILESIAN SHEEP SHEARING.—The Silesian sheep owned by Messrs. CHAMBERLAIN, CAMPBELL & LADD, were sheared at Red Hook, Dutchess Co., N. Y., May 13, and we give the following summary from figures furnished by SANFORD HOWARD, Esq., Editor of the *Boston Cultivator*, who was present.

Five breeding ewes, that had suckled lambs from last December, sheared an average of 8 lbs. 14 oz. of unwashed wool per head. Their mean weight was 69½ lbs. each, so that 100 lbs. live weight of animal gave 12 lbs. 13 oz. of wool.

Five yearling ewes sheared less than 11 months previous and whose mean weight was 62½ lbs. each, sheared 8 lbs. 4 oz. each, or 100 lbs. live weight gave 13 lbs. 2 oz. of wool.

A buck of last year's importation, sheared less than eleven months ago, and weighing 110 lbs., sheared 13½ lbs. of wool, or 100 lbs. live weight, gave 12 lbs. of wool.

Two yearling bucks, mean weight 69 lbs. wool; less than eleven months growth, sheared 8 lbs. 7 oz. each, or 100 lbs. live weight, gave 12½ lbs. of wool.

A fine flock of French Merinoes were also sheared.—Five yearling ewes, mean weight 71 lbs., wool 17 months growth, sheared 13 lbs. 11 oz. each, or 100 lbs. live weight gave 19 lbs. 2 oz. of wool.

Mr. HOWARD says: "It was estimated that a deduction of 25 per cent would make this wool equal in cleanness to ordinary washed wool, and in this condition, it is said by those who are well acquainted with the wool market, it would bring sixty cents per pound."

The above figures show that the Silesian sheep produce a large quantity of wool in proportion to their live weight, and all who saw these beautiful animals at our last state fair, and at the Fair of the United States Agricultural Society in Boston, will not need to be informed that it is of a superior quality.

GREAT SALE OF IMPROVED CATTLE.—By reference to our advertising columns, it will be seen that L. G. MORRIS Esq., of Mount Fordham, N. Y., has concluded to sell at public auction, without reserve, his *entire herd* of Devon Cattle, his entire flock of South Down Sheep—many of which have no superior on this or on the other side of the Atlantic—his entire herd of Berkshire and Essex hogs, and about fifteen shorthorn bulls and bull calves. It was first Mr. MORRIS' intention to give up breeding altogether, but we are glad to learn that he has been persuaded to keep a portion of his herd of shorthorns, and to give his undivided attention to them hereafter.

EFFECT OF THE WINTER ON QUINCE TREES.—In a recent conversation with Mr. ZERAH BURR, of Perinton, in this county, he informed us that his quince trees have been materially injured by the severe cold of the past two winters. He has an orchard containing one hundred and fifty trees, that have been set out over twenty-five years, and which yields, on an average, over one hundred barrels of fruit in a season. The orchard has received good cultivation, and the trunks of many of the trees are over three feet in circumference. This spring many of the trees have died, and many other are so severely injured that Mr. B. fears they will not recover. Have similar effects been observed in other sections?

The GENESEE FARMER for May is one of the best ever issued.—*Hollidaysburgh (Pa.) Register*.

UNDER-DRAINING FOR FRUIT TREES.—The *Horticulturist* states that nurserymen who had under-drained their grounds, were observed to be delivering their trees at least *ten days earlier* than their neighbors who neglected it—a fact which we can readily believe, and one which is of immense importance to the nursery interest. Crops of all kinds are earlier on under-drained land, and the land can be plowed earlier in the spring and later in the fall, and sooner after heavy rain, than land which has not been drained. The depredations of the wheat midge may be materially lessened by having wheat mature earlier, and the fact that it does ripen sooner on drained land than on undrained land, cannot for a moment be doubted.

We are indebted to Prof. GEO. H. COOK, for the second annual Report of the Geological survey of the State of New Jersey for the year 1855. It contains a large amount of valuable information, from which we hope to draw for the benefit of our readers at some future time.

Notices of New Books, Periodicals, &c.

THE FLOWER GARDEN; or, Breck's Book of Flowers—in which are described all the various hardy Herbaceous Perennials, Annuals, Shrubbery Plants, and Evergreen Trees, desirable for ornamental purposes or cultivation. By JOSEPH BRECK, Seedman, &c. Boston: Published by John P. Jewett & Co. 1856.

Every cultivator of flowers should possess this work. It is an elegant book of about 600 pages, containing descriptions of nearly every flower to be found in the most extensive collections, with remarks in regard to their cultivation in this country. It is not a reprint of an English work; the author is an experienced American florist, and writes for American readers, and with reference to American climate. The demand for this work has been so great that the former editions were exhausted. The present edition contains a new and useful chapter on House Plants, and is altogether such a "Book of Flowers" as we have pleasure in recommending to our readers.

THE MOTHER'S RULE; or the Right Way and the Wrong Way. Edited by T. S. ARTHUR. Rochester, published by E. DARROW & Bro., 65 Main-st. 1856.

This is a really excellent book. No mother can rise from the perusal of these delightful little stories, without being better prepared to govern wisely her household, and to control the feelings of herself and her children.

THE WEDDING GUEST; A Friend of the Bride and the Bridegroom. Edited by T. S. ARTHUR. Rochester: Published by E. DARROW & Bro., 65 Main-st. 1856.

This is a collection of short sketches of the different phases of married life. They are all moral in their tone, and elevating and refining in their sentiment, containing much sound advice, and affording considerable entertainment. The typography and binding of the book are excellent. Send the publishers seventy-five cents worth of postage stamps and get the book.

THE HEROES OF METHODISM, containing Sketches of Eminent Methodist Ministers, and Characteristic Anecdotes of their Personal History. By Rev. J. B. WAKELEY. New York: CARLTON & PHILLIPS. 1856.

This is an exceedingly interesting book. It contains sketches of the lives of twenty-three English and American Methodist Ministers, with several excellent steel engravings. The work is destined to a great sale, not only in the Methodist connexion, but among the more liberal minded of other denominations.

SELECT LECTURES: Comprising some of the more valuable Lectures delivered before the Young Men's Christian Association, in Exeter Hall, London, from 1847 to 1855. Edited by Rev. D. W. CLARK, D. D. Cincinnati: L. SWORMSTEDT and A. POE. 1856.

We have read these Lectures with unmingled pleasure. They are on subjects of deep interest to all, and especially to young men. No one can read them without being the better for it. We have the Lectures as published in London, and have often wished that at least a portion of them might be re-published in this country. Dr. CLARK has made a most judicious selection, and the publishers have got up the book in superior style. We trust it will have a great sale.

LIFE OF SCHAMYL, and Narrative of the Circassian War of Independence against Russia. By J. MILTON MACKIE, Author of *Cosas de Espana*. Boston: JOHN P. JEWETT & Co. 1856.

Those who desire a more intimate acquaintance with the life and manners of the remarkable people inhabiting the Caucasian mountains, will not fail to read this book with interest.

Inquiries and Answers.

(WM. LIVINGSTON, Laurenceburg, Pa.) You can get the Lawton Blackberry from WM. LAWTON, of New Rochelle, N. Y. Houghton's Seedling Gooseberry, and Hovey's Seedling Strawberry you can get from any nursery. The American Kitchen Garden, which we can send you for 25 cents, postage paid, may be of use to you.

MICE AND FRUIT TREES.—Please give us, in the *Farmer*, the best way to prevent mice from barking fruit trees. To pack the snow around the trees will save many, but cannot a composition readily be put on in the fall, harmless to the tree, and at the same time offensive to the mice? H. J. FOSTER—*Palmyra, N. Y.*

IMPURE WELL WATER.—I have a well from which my house is supplied with water, that is about twenty-five feet deep. For several years past, the water for a time becomes very offensive to the smell and taste. Some years it regains its purity, to all appearance, in from two to four weeks. Last year we could not use it for over two months. I shall be very much obliged if any of your readers can tell me the cause, and the remedy.

I would say I have tried cleaning; also quick lime, but without success. There is a wooden pump in it, which has been preceded by at least two other wooden and one lead pipe pump. D.—*Gates.*

CULTIVATION OF THE PIE PLANT.—I wish some information on the cultivation of the Pie Plant. Last fall I obtained some roots, set them in a good rich soil, made doubly so by a bountiful supply of chip manure from an old wood pile, where wood has been sawed and chopped for many years. This spring they came up with a head nearly as large as an egg, and the leaves unfolded without rising on a stem at all. They are now putting forth blossom buds. If you or any of your intelligent correspondents can tell me thro' your journal how I can remedy the defect, they will oblige a subscriber. D.—*Gates.*

CURE FOR POLL EVIL.—EDS. GENESEE FARMER:—I see in your May number a request for a cure for the Pole Evil. Now, as I have derived much useful information from the pages of the *Genesee Farmer*, I think it my duty to contribute my mite for the good of your readers, as they have done for me.

Several years ago I had a valuable mare badly affected with Pole Evil, and after trying many remedies without any good effect, I used what is generally called Fish Oil, or Tanner's Oil, applied freely to the sore, using a feather to anoint the inside, and rubbing freely with the hand, on the outside, daily, until she was perfectly cured, which was in a short time; and not only was she perfectly cured, but there was no stiffness of the neck, and "sticking out" of the head, as is often the case after the cure of the Pole Evil. I still own the mare, cured some ten years ago, and there has never been any appearance of a return of the disease; but she has got the Heaves.

Will some of your numerous correspondents inform me what is best to relieve or cure this disease. J. D. K.—*North Liberty, Ohio.*

ADVERTISEMENTS.

To secure insertion in the *FARMER*, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

FOR SALE.

HAVING to devote my time to other business, I have determined to sell several Farms, now in cultivation under my own direction, and also a Grist Mill and Saw Mill. The mills are situated about six miles from the county seat in a thickly settled portion of the country, on never failing streams, and healthy locations. There are two run of stones in the Grist Mill, together with all the machinery for manufacturing flour, buckwheat flour, corn meal, &c. The mill is 60 by 40 feet, three stories high, with a 16 feet wheel. The Saw Mill is run by a submerged center discharging wheel, cast gearing; and the Mills, within 80 feet of each other, are run by different streams, and were built in 1851. There is attached to the mills about 200 acres of land, part of which is in cultivation in grain and grass. There are four tenements on the land, rented out; three of them, without any land, pay \$160. The mills are under my own direction, and the miller rents the farm, and pays crop rent. The mills rented last year for \$400. There is a large portion of bottom land on this farm which is valuable. The Alexandria, Loudoun & Hampshire Railroad passes within 100 yards of the mill, where there is to be a station, &c.

I also have a Farm of 100 acres adjoining the county seat, well improved, good house of brick, orchards, well watered, and all the necessary outbuildings. The Manassas Gap Railroad passes through the village, and also a turnpike road to Washington and Alexandria, which are distant about 15 miles. I have also another Farm of 100 acres, within three-fourths of a mile of the county seat, one half of which is in timber, and the other in cultivation. I am building a house on this, which will be finished by fall. I have also one other Farm of 120 acres, lying about four miles from the county seat, in cultivation by a Northern man, who has resided on it three years.

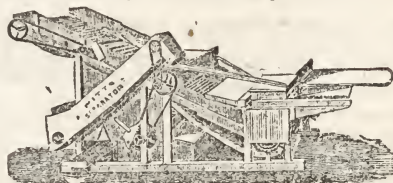
I will sell any or all of these Lands, &c., on reasonable terms. Persons desiring further information, can address the undersigned at Fairfax Courthouse, Va., who will give information, if desired, relative to his own or any other lands in this or the adjoining counties.

May 1, 1856—tf.

GEO. W. HUNTS, JR.

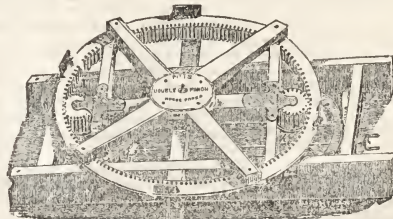
ATTENTION THRESHERS!

PITTS' PREMIUM SEPARATORS AND DOUBLE PINION HORSE POWERS.



THE above cut is a representation of the justly celebrated Pitts' Machine for Threshing and cleaning grain at one operation. It is the best Machine for threshing and cleaning grain in existence.

The following cut represents Pitts' Double pinion eight or ten Horse Power.



As a superior and every way reliable Horse Power, the above stands unrivalled.

Pitts' Machine was awarded a splendid Gold Medal at the recent Paris exhibition in France.

We call attention to the fact that we are now manufacturing the above Machines at Rochester, N. Y., in a more substantial, durable and of a larger capacity than any hitherto built by us in this city, having all the latest improvements made by John A. Pitts.

We also make a new style of Straw Carriers, more portable than any heretofore made. We can furnish the latest and best all iron Power for eight or ten horses.

We invite all who intend purchasing to examine our machines; they will more than equal the best expectations of the public.

ALEXANDER GORDON & CO.,

Successors to JOHN A. PITTS,

May 1—2t.

68 South St. Paul street, Rochester, N. Y.

McCORMICK'S REAPING AND MOWING MACHINE.

THAT took the GREAT MEDAL at the World's Fair at London, and the GRAND GOLD MEDAL OF HONOR at the French Exhibition at Paris, and the only First Class Medals awarded to any Agricultural Implement at either place. Manny's Machine, and Atkins' Self Raker stood in the Third and Fourth Classes, and received Silver Medals only. I quote from the official report as follows: "In Agriculture, the Gold Grand Medal of Honor was awarded to C. H. McCormick, of Chicago, Illinois, United States of America, inventor of Reaping Machines, that have performed the best at every trial, and is the type after which all the other Reapers have been made."

The Hon. William Elliott, Commissioner of the State of South Carolina, in his report to the Governor of that State, says: "I had the pleasure of witnessing the trial of McCormick's Machine, and second triumph in the field of Trappe's, whose model implements, selected from France and England, were brought in competition with it only to test its superiority. Its success was so distinguished as to disarm envy, and bring down generous cheers from the vanquished parties. After its repeated triumphs, the Emperor purchased my machine, and not Manny's, as alleged by the proprietors of that Machine, who, to give character to it, unfairly and falsely claimed that it took the first premium at Paris."

There is no machine in use of the kind, so strongly built and durable, (no other having a wrought iron finger beam, and malleable iron fingers, which add greatly to its strength and durability,) requiring as little repairing, or that will perform as much with less horse power. I consider it perfect as a Reaper and a Mower, performing the work as well as two separate machines, at a great reduction in the cost to the purchaser.

After the extensive sale and use of it, and its unparalleled success, no extended notice of it is necessary, and I will only refer to my handbill for a more particular account of it. The broad warranty which permits a trial of it before it is paid for, is a sure guarantee that it is what it is recommended to be. Machines will be forwarded to any part of the States or the Canadas, where there are no local agents, if ordered of THOMAS J. PATTERSON, General Agent at Rochester, office at the National Hotel. Price \$150; \$50 payable on delivery, and \$100 on the first of December next, with interest; or \$145 cash. Subject to freight from Buffalo, St. Catharines or Collingwood.

AGENTS AUTHORIZED TO SELL.—PARSON D. WRIGHT, No. 20 Mumford St., Rochester. Seth Balcom, Lewiston; R. Van Brocklin, Lockport; C. Wolcott, Cayville; W. Bidleman, Medina; C. C. Searl, Albion; Bowman, Walker & Co., Palmyra; W. E. Pomeroy, Syracuse; M. B. Flinn, Rushville; Morse, Antis & Little, Canandaigua; J. Tillman, Geneva; Waterman & Jackson, Vienna; Jones & Lawrence, Penn Yan; J. D. Payne, Jefferson; H. Westlake, Horseheads; J. D. Freer, Cortland; C. F. Doty & Co., Genesee; L. C. Bingham, Mount Morris.

In Canada—J. M. Fawcett, Grimsby; F. H. Hawkins, Dundas; G. Tilden, Brantford; W. Caperton, Paris; G. W. & J. J. Park, Watford and Simcoe; W. Richardson & Co., St. Thomas; Leonard Peck Goodrich; H. P. Brown & Co., Woodstock; John McGee, Toronto; Jacob Mead, Bowmanville; Brown, Post & Co., Whitby.

C. H. McCORMICK.
By THOS. J. PATTERSON.

Rochester, June 1, 1856.

FARMERS, YOUR ATTENTION IS ASKED TO

HYDE & WRIGHT'S PATENT HORSE HOE OR CULTIVATOR PLOW.

DESIGNED and better adapted than any other implement for hoeing Corn, Broom Corn, Potatoes, Cotton, or any other crop requiring the use of the Horse or Hand Hoe. It has proved itself the most valuable implement yet invented for the purpose intended. It has been in use in Western New York for the past three years, hundreds of them having been sold on trial and none returned. Its great utility has been demonstrated in the fact that one day to the acre, with a man and horse is all the expense of cultivating and hoeing a field of corn for the season. If used as directed, hand hoeing, in nine cases out of ten, may be entirely dispensed with. We have numerous certificates of the most satisfactory character, which we would be happy to show the public. We extract from a letter received from one of the largest and most influential farmers in our State, the following:

"Nestora Farm, Mottville, N. Y.

Messrs. A. GORDON & Co.—I received the Horse Hoe, which I have tried, and am much pleased with it, and my farmer says it is the very best thing he ever saw. I have invited my neighbors to come and see it, and have no doubt it will be adopted generally. I congratulate you as the manufacturers of so important and useful an implement.
Yours, ALFRED COBB."

Farmers may rely on realizing their best expectations from the use of the Horse Hoe. Price, \$8—if ground and polished, \$8 50. We are now making, and have steel ordered for 4,000. No Farmer should be without one. They are having an unlimited sale. Call upon or address
ALEX. GORDON & CO.
May 1—21. 63 South St. Paul street, Rochester, N. Y.

FOR SALE AT COST PRICES,
TO CLOSE A CONSIGNMENT CONSISTING OF

MOWERS AND REAPERS, (Forbush's latest Improved,) Straw Cutters, Corn Shellers, Fanning Mills, Plows, Garden Rollers, Wheel Barrows, &c.
A. LONGETT,
June 1—21. 34 Cliff street, corner of Fulton, New York.

HUSSEY'S COMBINED AND IMPROVED REAPER AND MOWER.

MANUFACTURED BY HUSSEY & CO., AUBURN, N. Y.

THIS has been admitted for years to be the best Reaper in every particular that has ever been introduced, and by adding some improvements, we are now prepared to offer the farmer the strongest, most durable, and therefore the cheapest combined

GRAIN AND GRASS CUTTER

now in use, and we have no hesitation in warranting it to be as far ahead of all others for Mowing, as it has heretofore been for Reaping.

The following are a few of the many improvements we have made within the last year, to make it a perfect combined machine:

We have ALTERED THE CUTTER BAR, for mowing (from wood six inches wide and two inches thick), to wrought iron, three inches wide and one inch thick, formed of two pieces, with wrought-iron open cap guards riveted between the two, which forms a strong, durable and light cutter bar.

We have also attached an entirely NEW SEPARATOR to the out end of the cutter bar, with a wheel attached which carries the cutter bar clear from the ground, and lessens the draught of the machine at least one-third, and dispenses with all side draft, and entirely obviates all trouble in backing or turning around.

We have also made a very essential IMPROVEMENT IN THE TONGUE, by which the cutter can be raised in a moment to pass over cut grass, or pass from field to field.

Our machines work with a loose pole, with a wheel, to regulate the cutter, which allows them to cut the same length of stubble in hollows that they cut on knolls, and makes much lighter work for a team than those working with a stiff pole. Our machines, both for

REAPING AND MOWING,

cut a full five-foot swath, and are built of the best and most durable materials, and we warrant them to work well at the slowest gait: a team can walk, and likewise capable of cutting from fifteen to twenty acres of grain or grass per day.

Price of the Combined Machines, complete, with all our late improvements, together with a spring-bottom, cushioned seat, \$130.00, at our manufactory.

All communications addressed to us on the subject will meet with prompt attention.
Auburn, N. Y., 1856.—jel 11

HUSSEY & CO.

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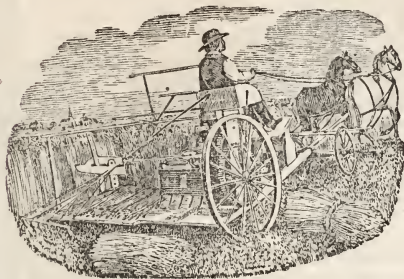
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THE MANUFACTURE OF CHEESE.

Milk from healthy cows always contains the same substances, but the *proportion* of these substances varies considerably according to the age of the cow, breed, and distance from calving. The kind and quantity of food, and the general treatment of the cow also influence the composition of milk to a greater degree than is generally supposed. It is difficult, therefore, to state, even approximately, what is the average composition of milk. We have been at the trouble, however, of collecting such analyses of milk as have been made by reliable chemists, and obtain the following figures as the mean of *eighteen* separate determinations. According to these analyses, 10,000 pounds of milk contains:

Water,.....	8,695 pounds.
Casein or curd,.....	391 "
Butter,.....	393 "
Sugar,.....	476 "
Salts,.....	40 "

Casein, or pure curd, is almost identical in composition with the white of egg; with the albumen of grass, roots, hay, &c.; with the legumin of peas and beans; with the gluten of wheat, &c., and with all the so called protein compounds of oil cake, bran, linseed, corn, barley, oats, and all substances used as food. These foods also contain oil or butter, as well as starch or sugar, and salts; so that we find in milk precisely the same substances as in grass, hay, roots, grain, &c.

Milk when drawn from the cow is always alkaline; it contains free soda. Casein or curd is insoluble in pure water, but readily soluble in water containing free soda. It is the soda of the milk, therefore, that keeps the curd in solution. The oil or butter is contained in little bags or films of casein, and is not dissolved but simply suspended in the water. The sugar and saline matter are of course held in solution.

Such is milk when drawn from the cow. By allowing it to cool and remain quiet for a short time, the little bags of butter, being specifically lighter than the other portion of the milk, rise to the surface and are known as cream. Other changes soon take place. The milk coagulates, and at a warm temperature soon becomes perceptibly sour. The cause of this is very simple. At a proper temperature, by the absorption of oxygen from the atmosphere, the casein undergoes a slight transformation, and reacts on the sugar of the milk, converting it into lactic (milk) acid. This acid immediately unites with the soda which holds the curd in solution, neutralizing it, and forming lactate of soda, while the casein, being insol-

uble in water, is precipitated; or, in common parlance, the milk becomes curdled. The conditions favorable to fermentation—heat, light and moisture—are therefore *unfavorable* for preserving milk sweet.

Milk can be instantly curdled by the addition of an acid, and in some countries, spirits of salts (hydrochloric acid) and vinegar (acetic acid) are used instead of rennet for "setting the cheese." In these cases, the soda which holds the casein in solution is neutralized by the acids, and the curd immediately becomes insoluble, and is separated from the whey as in ordinary cheese making. Cheese so made, however, is hard and unpalatable.

The only way to make good cheese is to produce lactic acid from the sugar of milk by fermentation. A great variety of means are employed for this purpose. As we have said, the casein in milk will of itself change the sugar into lactic acid and curdle the milk; but before it does this it has itself begun to ferment, under the influence of light and heat, and by the absorption of oxygen from the air. If curd be exposed to the atmosphere for a few days, and then added to milk, it coagulates it as quickly as rennet, and is often used for this purpose. A number of vegetable substances, such as the juice of the fig or thistle, a decoction of the dried flowers of the artichoke or thistle are also used as rennet. All animal substances in a certain state of decomposition will convert the sugar of milk into lactic acid, but, although pig's bladder is still used in some countries in Europe, it is generally conceded that the stomach of the calf, properly prepared, is the best substance for this purpose.

RENNET AND ITS PREPARATION.—When fresh, the membrane of the calf's stomach is insoluble in water, but when it is salted and kept for several months exposed to the air, a portion of its surface is decomposed, and becomes soluble. It is this soluble, decomposed, or more properly *decomposing*, membrane, which is the active principle in rennet. It is a soluble, highly nitrogenous substance, having its elements in a disturbed state, and therefore highly effective in inducing change in the elements of other bodies with which it is brought in contact.

In preparing rennet, we have to check the natural decomposition of the stomach by the use of salt—otherwise it would communicate an unpleasant flavor to the cheese—but at the same time keep the salted stomach long enough to permit its elements to become disturbed by the action of the atmosphere. In the celebrated Cheshire cheese districts of England, the skins are cleaned out and packed away with salt in an

earthen jar till the following year. They are taken out a month before use, stretched on pine sticks, and dried. A square inch of the skin for each 15 or 20 gallons of milk is soaked for 24 hours in a solution of lukewarm water and salt, and the whole poured into the milk and well stirred. In Gloucestershire, the cleaned stomach is salted and pickled and dried; and when at least a year old, it is well sodden in salt water; half a pint of which is sufficient to coagulate 50 gallons of milk. In Ayrshire, the contents of the stomach are preserved; the stomach is well salted, both inside and out, and dried for a year or more; and when needed for use, the whole is chopped up and placed with salt in a jar, along with water and new whey, which after two or three days, is strained to remove impurities, and is then ready for use. In the dairy districts of this State, the stomach is emptied of its contents without scraping or rinsing, salted and dried, and kept for one year. It is then soaked for 24 hours in tepid water—a gallon of water to each rennet. They should be frequently rubbed and pressed to get out all the strength. The liquor containing the soluble rennet, is then saturated with salt, allowed to settle, and strained to separate the sediment and all impurities. It is then fit for use. It should be kept in a stone jar, and in a cool place. As much of the liquor is used each morning as will set the cheese firm in 40 minutes. We have visited many excellent English dairies where the same system is adopted. It is, in our opinion, better than placing the rennet itself in the milk. The stomach may again be salted, stretched, and exposed to the air for some months, when it can be used over again—a fresh portion of the membrane having been decomposed by the air and rendered soluble. This fact, and others that might be mentioned, sufficiently prove that it is not the *gastric juice* of the stomach that is the active ingredient in rennet in coagulating milk.

TEMPERATURE OF THE MILK, SCALDING, &c.—As cheese making is a fermenting process, it is influenced materially by heat, proceeding within certain limits, faster or slower, as the temperature is raised or lowered. In England, the milk is generally raised to a temperature of 85° Fahrenheit before adding the rennet. In this country it is set cooler, and raised to a higher temperature after the milk is coagulated. This is called “scalding.” The word is a bad one—calculated to mislead. To “scald the curd” would be to spoil the cheese; but all that is meant by the phrase is raising the temperature of the whey and curd to about 100° Fahr. This “scalding” process has many advantages; among others, the cheese requires less pressure, and the milk can be set at a much lower temperature—say 80° Fahr.

Scalding should be done with great care and nicety. Formerly it was done by heating a portion of whey, and pouring it into the cheese; but there is danger of injuring a portion of the cheese by over-heating it. A much better method is now generally adopted by the dairymen in the northern counties of New York, and it is one of the greatest modern improvements in the art of cheese making. What our English friends call the “cheese tub,” is made of tin, and is placed in a wooden frame, so fixed that it can be surrounded by hot or cold water, as desired. The evening's milk is strained into this tin, as it is brought in warm from the cows; and is kept cool by allowing cold water to run round it. The morning's milk is added to the cooled evening's milk, and if not then sufficiently

warm to add the rennet, warm water is poured round the tin till the proper temperature is attained. There is some difference of opinion on this point; we know good dairymen who add the rennet to the milk at 80°, and others not till it is as high as 90°. The curd should come in about 40 minutes. Shortly afterwards, the curd is cut up with a “cheese breaker,” and then the temperature is gradually raised by pouring warm water round the tin. Many err by raising the temperature too fast. It should not be increased more than a degree in five minutes. In many dairies, a steamer is employed for heating the water surrounding the tin, containing the milk, or whey and curd, as also for supplying hot water for washing utensils, &c.

SEPARATING THE CURD FROM THE WHEY.—The English method of separating the whey from the curd by allowing it to settle, and dipping off the whey, is too slow for an intelligent, go-ahead American. In some of the dairies we have visited in the northern districts of this State, a lattice frame-work, on which a large cloth is spread, is fitted into a sink, connected by a pipe with the receptacle for the whey, or pig cistern. The whey and curd are dipped on to this cloth, the whey running through in a few minutes, leaving the curd on the cloth. A little cold water is then poured on to the curd to keep it from packing. Some, however, prefer to cool whey and curd together, by putting cold water round the tin. When the whey has all drained away, the curd is broken up fine and salted. It is then placed in a cheese hoop and pressed for twenty-four hours.

There are a number of excellent cheese presses, but probably none superior to that invented by Mr. DICK. The Self-Acting Press, so called because the weight of the cheese is the power which creates the pressure, is frequently used in small dairies. In the dairy districts of this State, KENDALL'S Cheese Press would appear to be the most popular, being cheaper than Dick's, and more efficient than the Self-Acting Press. A weight of 20 lbs. at the end of the lever gives a pressure of 10 tons. In all presses it is very desirable that the pressure should faithfully follow the cheese as it shrinks.

THE ENGLISH PRESS THEIR CHEESE MORE THAN WE DO.—The English dairymen, as a general thing, do not scald their curd, and hence much more care is needed in salting and pressing than in the process generally adopted by intelligent cheese makers in this country. In Cheshire, after the curd is separated from the whey, it is put under a hand press for an hour or two, and as much of the whey expressed from it as possible *previous to salting*. When taken from under the hand press, it is broken quite fine by hand, and salted. It is then put in the cheese hoop, and pressed slightly for six or eight hours. It is then taken from under the press, pierced with a wooden skewer, in order to open channels for the exudation of the whey, covered with a clean cloth, and put under a heavy pressure till next morning, when a clean cloth is again put round it, and a heavy pressure applied till it will no longer wet the cloth. Cheeses are frequently left under the press three or four days. “Scalding” expels the whey from the curd more effectually than can be done by the most powerful and long continued pressure, but it is a question whether at the same time it does not destroy some of the desired flavor of the cheese. If our dairymen should “scald” less, and press more, their cheese would be more highly prized, at least in the English market.

LIME IN MANURE HEAPS.

EDS. GENESEE FARMER:—After having given you so much trouble, may I again venture to ask your advice in reference to a matter which I do not find particularly stated in any of the books, or within the scope of any one's experience—any, at least, of my acquaintances.

The conditions of a very stiff soil, flat, wet, and hitherto wretchedly tilled, destitute of vegetable matter, and responding most kindly and permanently to the application of *guano* and farm-yard manure, require that I shall apply my farm yard manure to wheat along with one hundred pounds of guano per acre, a combination which has heretofore paid me better than two hundred and fifty pounds of guano alone. All my winter manures from sheep, hogs, horses and cattle, except a little compost, are now in my barn-yard, and my cattle are penned on it nightly. After July, my sheep will be also. This, as you are aware, by hard tramping, keeps it from heating, and keeps it well ammoniated, and is *practically*—see BOUSSINGAULT—about the best mode of treating it. Now what I want to know is, what will be the effect of carbonate of lime, or of hydrate of lime, on this mass of manure? Remembering what JOHNSTON has said about the formation of nitrates, and nitrate of lime, and what another has said about the mordant properties of lime in soil, it occurred to me that it might be of service, on land requiring lime, to furnish it in this kind of compost, rather than in the more expensive mixtures which PUVIS speaks of as prevalent in La Sarthe.

It may also have some effect in breaking down the fibre, and producing that decomposition so softening of the coarser material which we ascribe to the action of plaster on straw which has been plowed under the ground.

If you have any practical knowledge, or any theoretical suggestions, or any good authority, to offer me on this head, I would be much obliged to you. R.—Virginia.

P. S.—I include hydrate of lime, because burnt oyster shells, water-slaked as soon as drawn from the kilns, make a very common article of our lime trade.

REMARKS.—The action of hydrate of lime (caustic or quick lime), carbonate of lime (chalk), and sulphate of lime (plaster), on vegetable substances, is very imperfectly understood. The recent experiments of a reliable chemist seem to prove that, under certain circumstances, lime has a preservative effect on vegetable substances, or *retards* their decomposition. In this case, as in nearly all others, practical farmers have observed the fact before the man of science. MORTON, in his excellent work *On Soils*, says: "If straw of long dung be mixed with slaked lime, it will be preserved." The lamented PHILIP PUSEY, in the *Journal of the Royal Agricultural Society*, says: "Sir H. Davy's theory, that lime dissolves vegetable matter, is given up; in fact, it *hardens vegetable matter*." This is undoubtedly true, as we have said before, under certain circumstances. On the other hand, it is equally certain that when lime is added to a heap of organic matter, *in warm weather, and in the presence of water and air*, it accelerates fermentation.

The dung heap referred to by our esteemed correspondent, contains, undoubtedly, a considerable quantity of urate and other fixed salts of ammonia.

The immediate effect of mixing lime with the heap, would be to set free all the ammonia of these fixed salts—lime having a stronger affinity for the acids than ammonia. This action would probably result in much loss of ammonia; for while it is, perhaps, *possible*—by compressing the heap, adding a fresh layer of dung and litter every day, and keeping it constantly moist—to retain nearly all the ammonia, even after it has been liberated from its acid combinations; yet it is running considerable risk, without obtaining any compensating advantages.

Our correspondent justly observes that "hard trampling keeps the heap from heating, and is practically about the best mode of treating it." The effect of trampling is to retard fermentation by the exclusion of air. This slow fermentation is desirable. Active fermentation produces great heat, and this lessens the power of water in the heap to retain ammonia, while, at the same time, a much greater quantity of ammonia is set free in the heap. Loss of ammonia can hardly fail to be the result. Now, mixing lime with the manure heap induces this rapid fermentation; or, in other words, its effect is precisely the reverse of the "hard trampling" which practice and theory alike pronounce desirable.

The addition of lime to a manure heap *may* induce nitrification. But there is no advantage in this, if the nitric acid is produced from the nitrogen or ammonia of the manure, which is undoubtedly the case. A pound of nitrogen in the form of nitric acid is worth no more, if as much, as a pound of nitrogen, in the form of ammonia, or some readily-fermenting organic substance. It seems to be the opinion of some writers that the presence of lime, potash and soda in composts, changes the *nitrogen of the atmosphere* into nitric acid. *This is a mistake.* The only effect of lime or ashes in a manure heap, so far as we can see, is to increase fermentation. This, though sometimes desirable, is generally attended with great loss of ammonia. In addition to this, such a soil as that described by our correspondent would probably be benefited *mechanically* by long, unfermented manure. So that, in this case, there could be no possible advantage in adding lime to the manure heap.

The action of *carbonate of lime* is the same as that of quick lime, except that it is very much slower. In fact, carbonate of lime, as found in marl, chalk, limestone, &c., is not sufficiently active to do either good or harm, in an ordinary manure heap.

LIME ON GRASS LAND.—An application of lime has frequently a very beneficial effect on grass land. It kills heath, moss, and sour and benty (*agrostis*) grasses, and brings up a sweet and tender herbage, mixed with white and red clovers, more greedily eaten and more nourishing to the cattle. Indeed, all fodder, whether natural or artificial, is said to be sounder and more nourishing when grown upon land to which lime has been abundantly applied. On benty grass the richest animal manure often produces little improvement until a dressing of lime has been laid on.

SIR HUMPHREY DAVY states that the germination of seeds in general is hastened by watering them with a solution of chlorine. Have any of our readers ever soaked seed in a solution of chloride of lime to accelerate germination?

A DAY IN SENECA COUNTY.

On the 26th of June, we had the pleasure of visiting JOHN JOHNSTON, Esq., near Geneva, N. Y. His farm contains 306 acres, and every rod of it is thoroughly underdrained, from two and a half to three feet deep, with tiles. *There is between fifty one and fifty-two miles of underdrains on this farm.* There is now sixty-two acres of wheat on the ground—and such wheat! After looking at such crops as have mostly come under our observation this summer—from five to fifteen bushels per acre—it is a pleasure to gaze upon a dark green mass of luxuriant wheat, undulating in the breeze, with strong, bright straw, and well filled ears, that, if it escapes the wheat midge, will certainly yield between forty and fifty bushels of wheat per acre. We wish every farmer in the country could see this wheat. It would convince all that there is profit as well as pleasure in under-draining.

Let no one suppose that Mr. JOHNSTON is an amateur farmer. He commenced with little money, and purchased 112 acres of his present farm when the country was new. Some of his neighbors predicted that he would soon have to sell it again; that the land was too hard, too wet, too cold, too poor, for him or any other man to get a living off it. However, he went to work with a resolution and energy that nothing could daunt. When at plow, if any one wished to talk to him, they must walk by the side of the plow, for stop he would not. The driest portions of the farm he thoroughly summer-fallowed, and obtained fair crops. He raised his own clover seed, and sowed it without stint. He never plowed under any clover, but made it into hay, or grazed it with sheep and cattle. He never sold a bushel of oats or corn in his life, but fed them out on the farm. For sixteen years he cut no timothy or other cereal grass. He imported a few tiles from Scotland at great expense. Then he got patterns, and induced a man to make the tiles in this country. These cost him \$28 per thousand. A tile machine was finally imported, and now these same tiles are purchased for \$8 per thousand. He then commenced a more systematic course of draining, and finished only last week, having laid with his own hands the greater portion of the fifty-one miles of tiles. This is not amateur agriculture. It is plain, practical, paying farming. The farm, as it now stands, is a speaking monument of the power of intelligent, persevering, skilful industry, when applied to the cultivation of the soil.

Underdraining has been the primary means of raising this farm to its high fertility; but other means have not been neglected. As we have said before, no corn, hay, straw, &c., have been sold off the farm. Sheep enough to consume all the straw are kept; and it is found that straw and a little oil-cake will make them very fat. Last winter 435 were fattened in this way. Nothing is more profitable. Besides the corn—2,900 bushels of ears of which have been grown and fed out in a year—as much as twenty-five tons of oil-cake have frequently been fed out in a season. As many as ninety head of cattle have been fatted in the yards in a winter. It is not to be wondered at that the manure made from this oil cake, corn, oats, straw and clover (Mr. J. is cutting fifty-eight acres of clover hay this year—and such clover!—and we presume usually cuts as much), should raise the land to the highest state of fertility.

From six to eight tons of plaster are used on the farm each year. If the wheat is not too rank, it is sown on the wheat in the fall or in the spring, with the clover seed; otherwise, it is sown on the clover after the wheat is harvested, or early the next spring. The effect of plaster on the clover is most marked. Mr. J. has been in the habit of leaving strips without plaster, and invariably observed that the cattle and sheep would not eat the clover on these strips while there was any on the plastered land. He has "great faith in a jury of dumb beasts," and is confident that manure, plaster, &c., not only increases the quantity, but also the nutritious quality of the clover, &c. Plaster has a good effect on the corn crop, a bushel per acre being sown at or soon after planting. A bushel or two of salt scattered along the rows of corn (Mr. J. usually plants in rows, not hills) is also beneficial. Salt is also sown on the wheat—a barrel to the acre—with good effect, imparting strength and brightness to the straw. From our own experience, we should say that the action of salt is generally to retard vegetation, and is usually beneficial only on rich land. On the rich land of the west, salt might doubtless be used to great advantage.

In 1854, Mr. J. used a ton of Peruvian guano on his wheat, and last fall he sowed three tons. The effect has been visibly beneficial all summer, though Mr. J. questions whether it will pay with wheat at one dollar per bushel. He also used a ton of guano and some poudrette and Talcum on corn this spring.

This is a very meagre account of Mr. JOHNSTON's farm practices; but the time and space at our command this month, forbid further detail.

Adjoining the farm of Mr. JOHNSTON, ROBT. S. SWAN, Esq., has one of the finest and most beautifully located farms of about 340 acres we ever saw. The farm house is situated on the highest point of the farm, and commands a fine view of Seneca lake, Geneva, &c. The house and buildings, it is said, cost \$26,000. Mr. S. studied agriculture with Mr. JOHNSTON. He purchased this farm five years ago, and brought intelligence, skill, and great energy, practical knowledge, and abundant capital to his aid in improving it. The year he took possession, the wheat on the land produced only five bushels per acre. Now there are fifty acres of wheat on the farm that will average forty bushels per acre, if the wheat midge does not destroy or materially injure it. This result has been attained principally by under-draining and by thorough tillage. Every rod of ground on the farm is well under-drained. There is upwards of fifty miles of under-draining on the farm.

We should state that Mr. SWAN has used seven tons of guano on the farm since last fall. His barley and oat crops are excellent. The corn has had to be planted three times, the mice eating the seed about as fast as it can be planted. That which is up looks well. Some eight acres of the field that have been planted three times, Mr. S. intends to sow to buck-wheat.

About three miles from Mr. JOHNSTON, along the lake shore, Mr. FOSTER has a beautiful farm. In 1849, Mr. F. took the first premium for the best farm in the State. The prominent points in Mr. FOSTER's management are these: Corn is planted on clover sod, plowed up generally in the spring. All the manure is applied to the corn crop. After corn, the land is sown with barley, followed with wheat in the fall, which is seeded down with clover the next spring.

The land lies in grass two or three years, and is then broken up and planted to corn, as before. Mr. F. thinks that for his land this is the best rotation he can adopt. He thinks he gets as good wheat after barley as after a summer fallow. The wheat now on the ground—some fifty acres—looks well. The corn is splendid; not a weed to be seen in the field. Mr. F. seldom or never uses the hand hoe in cultivating his corn. By passing the horse cultivator both ways between the rows, he manages to keep the land free from weeds, and in as fine tilth as though it were summer-fallowed.

The wheat crop in Seneca county this year will not be an average. It is very thin on the ground; it looks well to a superficial observer, but "you can see too far into it." There was much less land sown with wheat last year than formerly; and it seems to be the prevailing opinion among farmers that the aggregate wheat crop will be much below an average in Western New York. Barley and oats never looked better; and where the corn has not been destroyed by mice, or has failed to germinate from being imperfectly matured last fall, it looks well. We are glad to see that the cultivation of peas is on the increase. We saw several fields between Rochester and Geneva, all of them giving promise of an abundant yield. The opinion we have advocated, that on wheat farms it will pay to grow peas to feed out to hogs early in the fall, before the bug does much injury, is gaining ground. The clover crop is immense everywhere. Timothy is very thin on the ground, and receives much injury from a worm in the upper joint. In fields where there is no clover with the timothy, the hay crop will be light; but in many fields we have seen, a spontaneous growth of white clover has taken the place of the timothy, and will help out the hay crop.

PLASTER ON CLOVER SEED.—In our "Hints for the Season," in the June number, in recommending farmers to raise their own clover seed, we said: "Plaster increases the foliage of the plants, but, it is said, retards the ripening of the seed." Mr. JOHN JOHNSON mentioned a case in his own practice which is to the point: He had a fine crop of clover, which he mowed early, and left the second crop to go to seed; and wishing to have an extra yield of seed, he sowed on it a bushel or so of plaster per acre. *The clover grew prodigiously, but produced no seed.*

MICE AND THE FAILURE OF SEED CORN.—*Ed. Farmer:*—There is a good deal of failure from seed corn this season. It is generally attributed to want of vitality in the seed of last year's growth. I believe the superabundance of mice has something to do with this failure, especially on sward ground, and on lands that were turned last season with a heavy sward. I have examined mine to some extent, and find no corn in the hills—at least none in comparison—that was rotten. Now to remedy the evil, as it is too late to replant with corn, I intend to plant the spaces with white beans, as they pay as well as anything at the present reduced prices of farm products; and I would advise my brother farmers to do likewise; or, if the land is suitable, put turnips at the second or last hoeing, as they are an excellent feed for sheep and young cattle.

Could you, Mr. Editor, persuade others to give their opinions whether the mice or rot is most in fault with our corn fields this year? *D.—Gates.*

CLOVER HAY FOR HORSES.—[In conversation with an English gentleman who had been raised a farmer, he stated what agrees with my own experience in regard to the merits of clover hay; and that is, that clover properly *cut* and *cured*, is our most valuable hay for the horse. I have noticed that when horses are fed with mixed hay (i. e., clover and timothy), they will pick out the clover first, and if not sufficient to satisfy their wants, they will then partake of the latter; and when horses are fed on good clover hay, their coats are glossy and fine, and they are in better spirits than when fed on any other; I mean hay alone. The gentleman of whom I have spoken, says the teamsters of England prefer clover hay, at all times, to any other; and if, perchance, their clover runs short, they call for "more corn (oats), as the clover is all gone." Will not this suggest the idea for farmers in America to be a little more careful in saving their clover, so as to have a bright, sweet feed, instead of the black, leafless stalk commonly styled clover hay. *D.—Gates.*

GLASS MILK PANS.—*L. V. BIERCE*, of Akron, Ohio, has been experimenting a little with milk in glass pans, and furnishes the result to the *Ohio Farmer*:

"I took the milk of the same cow, milked at the same time, and divided it equally, putting half in a glass pan, and half in a tin pan, and placed them side and side. In the first twenty-four hours, were two thunder showers; and at the end of that time, the milk in the tin pan was sour; that in the glass pan sweet and good. At the end of twelve hours more, that in the tin was thick *clabber*, or *lobbered*, as the Yankees call it, and that in the glass *began* to turn.

"From this, I believe glass pans will preserve milk one-third longer than tin pans. Will our dairymen try it?"

YELLOW DOCK.—I perceive a great many yellow dock in most of the meadows around the country. Now they may be good for *nostrums*, but they are not good for hay; and where a stalk of it grows, a stalk of good timothy or clover might grow just as well; and as mowing, or even plowing, will never eradicate it, I would advise every farmer to take a day now (it would have been better earlier in the season), and pull them up, and carry them into the road, where the wagons may have a chance to grind them to powder; or, as the boys will want some change next winter, let them pull them, and *dry the roots*. They can probably get something for them at the drug stores. *D.—Gates.*

LIME HASTENS THE MATURITY OF THE CROP.—*JOHN STON* says: "It is true of nearly all our cultivated crops, but especially of those of corn, (wheat,) that their full growth is attained more speedily when the land is limed, and that they are ready for the harvest from ten to fourteen days earlier. This is the case, even with buckwheat, which becomes sooner ripe, though it yields no larger a return, when lime is applied to the land on which it is grown." Have our readers any experience on this point?

HEMP—WILL IT KILL VERMIN?—*The Farmers' Encyclopedia* says:—"Another valuable property of hemp is, that it effectually expels vermin from plantations of cabbage. If it be sown on borders of fields, &c., planted with that vegetable, no caterpillars will infest it." Is this a fact?

SPURRY AS A GREEN MANURE.

HAS spurry (*spargula arvensis*) been tried for the purpose of plowing under as a green manure in this country? If it has not, it is well worthy the attention of the Agricultural Department of the Patent Office. The probability is that it would be found a decided acquisition on the poor sands of the Atlantic slope. It is on such light, dry soils that green manuring has been found most beneficial, and "for such soils," says JOHNSTON, "no plant has been more lauded than spurry. It may either be sown in autumn on the wheat stubble or after early potatoes, and plowed in in spring preparatory to the annual crop, or it may be used to replace the naked fallow, which is often hurtful to lands of so light a character. In the latter case, the first sowing may take place in March, the second in May, and the third in July—each crop being plowed in to the depth of three or four inches, and the new seed then sown and harrowed. When the third crop is plowed in, the land is ready for a crop of winter corn."

VON VOGHT states that by such treatment the worst shifting sands may be made to yield remunerative crops of rye—that the most worthless sands are more improved by it than those of a better quality—that the green manuring every other year not only nourishes sufficiently the alternate crops of rye, but gradually enriches the soil—and that it increases the effect of any other manure that may subsequently be put on. He adds, also, that spurry produces often as much improvement if eaten off by cattle as if plowed in, and that when fed upon this plant, either green or in the state of hay, cows not only give more milk, but of a richer quality.

THAER in his *Principles of Agriculture*, a work which should be in every farmer's library, says:

The following are the properties which ought to be united by those plants which are cultivated for the purpose of being buried as vegetable manure:

The plant chosen ought to be one adapted to the texture, qualities, humidity, and situation of the land on which it is to be sown, in order that, so far from vegetating slowly, it may shoot up and flourish with all possible rapidity.

The seed must neither be expensive nor scarce, or it must be of such a nature that a small quantity of seed will sow a considerable extent of land.

This plant must attain its full vigor and development in the shortest possible space of time, in order that the requisite number of plowings may be bestowed on the fallow, if the crop be sown on fallow land, or that it may succeed the harvest of some other crop, and attain its development that same year.

It must be well adapted for the purpose of keeping the soil loose—must penetrate deeply into it by means of its roots, and cover it with its leaves.

It must contain a considerable portion of mucilage, or of some other vegeto-animal substance, which is analogous to animal matter.

It must be disposed to putrescence.

There is no plant that unites all these qualities in so eminent a degree as the *spargula arvensis* (corn spurry); various trials with regard to its fitness for this purpose have been made, almost all of which have turned out well. Previously to plowing this plant into the soil, cattle may be allowed to pasture slightly upon it; but then they must be suffered to remain there during the night, if we would not take away a considerable portion of the advantages which might otherwise be derived from this practice.

PRICE OF LAND IN THIS COUNTRY AND IN CANADA.

THE Country Gentleman says:

JUST THE DIFFERENCE.—Along the Niagara river, good farming lands on the American side command \$100 per acre. Entirely similar, perhaps in some respects superior, locations on the Canada shore are procurable at any time for \$40. So we were informed on the best authority during a visit there. Institutions go a great ways."

Population and prices go a "great ways" further. On the American side we have the Erie Canal and the Buffalo & Niagara Falls and Buffalo & Lockport Railroads, a dense mercantile and manufacturing population—Lewiston, Niagara Falls, Tonawanda, Black Rock and Buffalo stud this side of the river, while the Canadian side is purely a farming district. Before the passage of the Reciprocity Bill, wheat was 20 per cent. higher in Lewiston than in Queenstown—two places connected by a bridge. Under such circumstances, it is not a matter of surprise that land should be higher on this side the river than on the other. It is manifestly unfair to compare the price of land remote from any commercial city with that in close proximity to the best of markets, and then to attribute the difference to the "institutions" of the two countries. Speculation has much to do with the price of land. There are few farms in this country that will pay the interest on "one hundred dollars per acre" and afford the farmer a reasonable compensation for his labor, when devoted exclusively to ordinary agriculture. A small farm, with good buildings, may be worth it, or a large farm properly under-drained, but a man that has to get his living by the cultivation of wheat, corn, &c., will have to look some time before he meets with a farm that he will be justified in paying one hundred dollars an acre for. If the price of land alone is to be taken as an index to the civil and religious freedom of a country, then English "institutions" are a "great ways" better than those of the "Model Republic," for certainly the land is worth more an acre in most parts of England than with us. Such reasoning, however, is fallacious.

If the editor of the *Country Gentleman* had done as we did some time ago—taken a span of horses and driven from Niagara Falls to London, he would have passed through as good an agricultural district as any on the continent—as good as Western New York. He would have found good houses, substantial and commodious barns, good fences and roads, good breeds of cattle, sheep and swine, powerful and active farm horses, superior implements, and the land as well plowed and the crops as good and as well cultivated as on this side the Niagara river.

Of the "institutions" of Canada, we know nothing—of her agriculture and her farmers, we can speak in the highest terms, and we are sorry the editor of the *Country Gentleman* did not go into the country and judge for himself rather than take the disparaging assertions of even the "best authority."

ADVICE TO FARMERS.—If you have occasion to chastise an animal having a dung fork in your hand, do not strike with the back of it, but rather use the points; for the wounded animal may recover, but the broken fork can never be repaired, and will be to you for years a vexatious memorial of your folly. M. G. Canton, Pa., May 21, 1856.

TRIP TO WISCONSIN.—BY S. W.

In passing this time west, I saw renewed evidences of improved farming. Even the *presqu'isles*, or little intervals along the Irondequoit, made by the meanderings of the creek, were now tilled for the first time since the beginning. Other heretofore wet fields now denoted the magic effect of draining. Even Pat's shanty, by the road side, instead of the Irish puddle, as a sign of nationality, at the door, had the better substitute of a potato patch, now extended along the railroad fence to a very respectable length. Thanks to the railroad ditches, the potatoes were up and hoed, and at least two weeks ahead of field crops planted at the same time. But when we come to a deeper cutting, where the subsoil has been unequally distributed, rich as it is in organic remains, PAT lacks the German industry to attack it.

It is said that since the completion of the Suspension Bridge, at Niagara Falls, the great hotels of Buffalo have had diminished profits. But the shipping trade, manufactures, and all other business, is making rapid strides here. Its manufacturing industry, now large, is increasing with that noiseless progression which cheap living, and, above all, cheap rents, can make permanently prosperous. Nothing is wanting to make Buffalo the largest manufacturing, as she is the greatest inland commercial city of the Union, but the completion of the railroad, of less than eighty miles, to the coal regions of Pennsylvania. Vegetation around Buffalo is about ten days behind Waterloo; and the late frosts here, had they occurred with us, would have cut off beans and tomato plants. Here the beans were cunning enough to peep above ground only after the last frosty night had passed away; and the green cucumbers, as well as tomatoes, are yet under glass.

Being detained by my friends "time enough yet," I missed the great Southern steamer. At the Lake Shore depot, the night train was preparing to start just as we returned there—\$13 dollars to Chicago, first class fare; \$8, second class (not the emigrant). Looking into the second class, I saw good, comfortable seats, sliding windows, and only a small company of plain-looking Yankee male and female passengers. As a Spaniard is never afraid of his *Pisano mio*, even in the shape of a bull, neither am I; hence I paid my \$8 and started. I got to Cleveland at early breakfast time; but when we came to take the cars on the west side of the river, we were politely told that no second-class car would be sent out until four in the afternoon, and that we must either wait or take a first-class ticket and pay the difference. As we should get to Chicago at 11 P. M., instead of 9 the next morning if we waited, and having a dread, not of the famed Chicago hostilities, but only of their reputed expensiveness, we one and all decided to stay and see the Cleveland lions, while we waited for the four-o'clock train.

Cleveland, barring only along the docks and warehouses the noisome, compound smells (in which the mineral alkalis, and vegetables far gone in decomposition, were present), is a beautiful, cleanly, busy, thriving city. Its magnificent, capacious depots and warehouses, are on a more extended scale than I had ever before seen—all built on piles driven into the submerged sands of the lake and river. Here were canal boats unloading iron and nails and manufactured articles, from Pittsburgh and Cincinnati; while

others were discharging pork, flour, corn, and all the other normal products of Ohio's rural industry. Here, also, were lake steamers, propellers, and sail craft, and the unpretending, but mighty powerful, little tug, which, in default of orders, runs out into the offing to look for a customer. Strange as it may seem, I saw a hermaphrodite brig towed in with a leading breeze and a fair wind. Perhaps the canny skipper is to have the preference whenever in company of others he is wind-bound or becalmed outside of port.

Left Cleveland in the four-o'clock train, second class, with a long train, but no emigrants. They had been sent in the morning, on the other road, by the way of Norwalk. Some of our passengers attempted to take that train; but they could not stand the stale smell of the ship steerage, which these unwashed animals had brought with them from sea. Passed along the lake shore; generally low, wet land, small, deciduous trees, and but little good farming in sight of the railroad. Soon came to the low, wooded islands of Sandusky Bay; then to the outskirts of that circumambient city. Soon became too dark to distinguish anything but the tall, dark forest of trees that delight in a semi-subaqueous region. Arrived at Toledo at 10 o'clock. A long, covered range of depot, on a piled marsh, was all we could now see. Here, again, the *stool-pigeon* car was taken off, and we were told with much modest assurance by the self-possessed ticket-seller, that he had no *excuses to make for the Company*; he only worked for his wages. I gave him credit for so masterly a cut-off to all useless controversy. We must now go a mile or more to the hotel, and wait till morning, or pay the difference, as the brokers say, and go on in the first-class cars. Of the two evils, Yankee-like, we now chose the least, each paying the exaction, \$2, under protest. FAUQUIER TINVILLE was accused by COLLOR of attempting to demoralize death itself; but there can be said, in his defence, that he never either attempted to reduce hypocrisy to a system, or to annul the blessed uses of honor and honesty between man and man; while the directors of these two railroad companies do both. Methinks such pitiful swindling will cease as soon as the railroad direction is purged from the councils of those vulgar men who owe their present position to the misfortune of having riches suddenly thrust upon them. One man said it was a Yankee trick, when a stalwart down-easter caught him by the throat, and told him not to repeat his words; and he didn't.

Got a good breakfast, barring the coffee, at White Pigeon, next morning. Could not find the car I had left until I had passed through it twice, as I looked at men rather than the car and its equipments, and my ship mates had become metamorphosed completely, particularly the females, by a change of dress. They now sported French lace collars, shell combs, &c. Give me a down-easter as the true master of the economy of life. No Yankee woman puts quite all on her back at once to show off in a railroad car, however strong the temptation may be. The progress of such a people may be depended on in a new country, even during a money panic.

We now pass over Pigeon and Sturgeon prairies—the best farms in Southern Michigan. All here is prairie, or oak opening—none of the large, tall sylvia of Western New York. Passed the Hoosier villages, of a Yankee exterior, Elkhorn and Laporte; then to the Sandy region of the lake, covered with small

pinus of the *Strolus* family. From the Calumet station, on the east, to Chicago, on the west side of Lake Michigan, all, or nearly all, is marsh or swamp, or open, shallow bulrushed waters; but Chicago pushes a straggling suburb far south of the city proper, with streets and corner-lots staked out as far as high terra firma well permits. Being too late for the Milwaukee morning train, I improved the few hours before the next train, to try to solve the problem of Chicago's present greatness. The mere passage of travelers here, has been beyond anything, perhaps, ever before witnessed in any age or nation. This tells the story why many hotel keepers have retired rich. 'Tis said at this time that no publican feels himself poor enough to adopt the low rates of a New York hotel. In fact, it has passed into a truism here, that the whole body politic east is sadly behind this great age of steam and electricity. It is to the opening of an extended country of unsurpassed fertility, all fitted by nature for the plow, that Chicago at this time owes her unparalleled growth and prosperity; for what would the lake navigation be, or the Illinois canal, or the railroads, had Illinois and the West been covered, as Western New York once was, by a thick-set, immense forest. Here are few of those great work-shops, vomiting forth smoke like so many volcanoes, as at Cincinnati. But here are great and busy wholesale stores and retail shops, where every far-fetched article is sold, monster warehouses and grain elevators, and a mercantile marine, not square-rigged or sea-appointed, it is true, but nevertheless all-sufficient for a monstrous carrying trade on the lakes. Here you will see a sturdy little tug pass a draw-bridge many times a day, lugging by her side some large bark, brig or schooner, as the mercurial little pissmire lugs the dead cockroach of twenty times his bulk. And then the shops! The moment you leave the great wholesale and retail streets, where everything, either useful or ornamental, may be found, you come into the region of lager bier, where every shop sells drink, and the front of every building is a shop, to say nothing of the thousand little improvised tenements built on leased lots too dear to buy, as long as money is worth two or three per cent. a month. It is now said here, that when money comes from abroad, as it was wont, tall, brick blocks are to take the place of these *bier shops*, as Chicago is destined to be to the United States what Paris is to France, only as much more than Paris, as the Mississippi is more than the Seine.

Business at this time was said to be unusually dull at Chicago. Corn, the great staple of commerce here was selling at 28½ cents afloat; a price involving a serious loss either to the farmer, or, as the trade say, to first or second hands. Low prices of agricultural products, now induced by the peace of Europe, must from the present extended production, continue for some time, and have its effect on trade generally, ultimately lowering the prices of both real estate and rents. Thus far it would seem that Chicago's greatness has been thrust upon her; but now the day has arrived for her to do something for herself, or she will inevitably lose caste with those cities of slower growth that have grown up strong as well as rich, by the continued increase of their manufacturing industry. So far from this, we see Chicago at this time importing from Milwaukee both *lager bier* and bricks; to say nothing of the vast amount of articles manufactured in the east. S. W.—*Milwaukee, Wis.*

GYPNUM OR PLASTER AS A MANURE.

THE *Boston Cultivator* has an excellent article on this subject, from which we make a few extracts:

"We are unable to tell, in advance, whether gypsum will operate favorably on a soil or not. The best way to find out is to *try it*. It may be necessary to try it more than one season before an answer can be given. Mr. Brooks, of Princeton, informs us that he sowed a hundred pounds to the acre on a pasture, which had to some extent turned wild—small bushes and coarse grass had started. The first season, little or no effect was perceived. The dressing was repeated the next season, and upon examination clover was found to be coming in. The third season, clover and cultivated grasses grew to such a degree that the cattle grazed the ground closely, and the wild plants were overcome.

The idea has been held that gypsum would do no good near the sea. It is not well founded. There are localities in close proximity to the sea, on which the best results are obtained from gypsum. Mr. Fay, of Lynn, sowed gypsum last year on a portion of his sheep-pasture, of which we have before spoken. The spot was one of the worst in the tract—so poor or so much occupied by wild trash that the sheep had avoided it. After the gypsum was applied, the sheep were noticed to graze there, and on examining the sward at the time of our late visit, the white clover was perceived in considerable quantity, and was evidently on the increase. Mr. F. said he should repeat the dressing this season.

It is a great desideratum to have a soil on which plaster will operate well. In many instances it is the cheapest manure that can be applied. True, in most cases—not invariably—the continued use of plaster without other manures, results in impoverishment of the soil. But if it will operate well at first, it affords the means of making other manures. If it produces grass, that will keep animals, and animals will make manure, which in turn will produce more grass, &c.

But there is some land which may be said never to be exhausted or injured by plaster. In the valley of the Connecticut river there are places where it has been the only manure used for fifty or sixty years. A meadow was pointed out to us, several years ago, on the farm of Mr. Chauncey Chapin, of Springfield, which had been mowed annually for fifty years, yielding an average of three tons to the acre, at two cuttings in a season, the only dressing having been two bushels of plaster to the acre each year—one bushel being sown in the spring, the other in August. We have also seen striking effects of plaster on similar land in other parts of the valley, particularly on the farms of Messrs. Wells and Paoli Lathrop, in South Hadley.

The soil on which plaster has produced these effects may be briefly described as follows: The high sandy plain between the river and the hills is underlain with clay. In some situations this plain has been cut down by the action of water until the clay forms the surface, or is only slightly covered with sand or loam. The clay varies in tenacity, being in some places suitable for bricks, and where a fresh bank is exposed, the strata are almost as distinct as the leaves of a book. It is the soil formed of this clay, or a considerable mixture of it, which is so much benefited by plaster. Messrs. Lathrop's pastures are never plowed, and never manured with anything but plaster, except the manure made by the stock while feeding. Yet the herbage improves in quantity and quality.

The time of applying plaster appears to have some connection with its effects. It is the practice in some sections to apply it to clover after a growth of a few inches has been made, and to potatoes, beans, &c., at the time of the first hoeing. It is supposed that the

results are more favorable under such circumstances. According to an experiment made in Germany, cited by Prof. Johnston, a given extent of land, undressed, produced of grass, 100 lbs.; top-dressed 30th of March, 132 lbs.; top-dressed 13th and 27th of April, 141 and 156 lbs., respectively. This would seem to support the idea that plaster operates best when sown after the leaves have been developed. Prof. Johnston asks if the results of the experiment referred to, can have any connection with the fact which has been observed, that gypsum [gypsum is composed of sulphuric acid and lime] laid on the leaves of plants is gradually converted into carbonate, its sulphuric acid being absorbed?

THE VALLEY OF THE SACRAMENTO.

The editor of the *California Farmer*, in a description of "A Trip up the Beautiful Sacramento," makes the following remarks:

"Those who never go above our city in the steamer, can have no conception of the beauty of the Sacramento, its quiet yet gently winding stream, with its green banks overhanging with stately trees; the denizens of our cities can form no idea of the extent or beauty and fertility of the Sacramento, without a personal visit. Miles and miles, aye, hundreds of miles of land, on both sides of this river is found soil as rich and fertile as man would desire, with locations for houses as beautiful as the heart of man could wish. Could the farmers of the old States but catch a glimpse of this locality—could they but hold the plow one day here, and see the rich soil upturned by the shining plowshare, they would soon give up the toil among the "stony places," where every day was indeed a day of toil, and come to our golden shores to cultivate, where we have indeed the deep and rich soil that brings forth some sixty, and some an hundred fold.

"The entire river from Vernon to Colusa, is one scene of fertility and loveliness; the large trees, with their deep green foliage bending down to kiss the rapid stream, the bright moon stealing through the waving branches and making them sparkle like a string of gems with the moving tide, as we passed onward and upward.

"No intelligent mind can pass up and down this beautiful stream, and not feel that ere long these banks and their vast prairies will all be brought into cultivation; and that such was the 'will of Providence,' brought about by the strange discovery of gold.

"There is not a single quarter section of this vast tract of land that is not capable of making a man rich in a moderate time, if he will give but a proper and constant yet scientific attention to it. For one hundred and twenty-five miles, till we reached Colusa, was one constant scene of rich fertility, enough to gladden the heart of every lover of Nature's rich landscape."

COARSE HAY FOR SHEEP.—A correspondent of the *Germantown Telegraph* says that the very best article of winter feed that can be provided for sheep, if cut before it becomes over ripe, and properly made, is the coarse grass abounding in our natural meadows. He has generally cut from five to eight tons of this grass; wintered his sheep on it without the assistance of any other hay, and carried them through more successfully, and with less loss than could have been done by providing them with any other keep. There is something peculiar about this hay that renders it extremely palatable to the sheep, and which prevents their becoming soon clogged; their appetite for it continuing unimpaired through the season, unless vitiated by the occasional use of other and more luxurious food.

MOLES VERSUS WIRE WORMS.—GEORGE WILKINS states in the *London Gardeners' Chronicle*, that some years since, he had two fields, one of which was full of wire worms, and the other was infested with them to the extent of more than one-third part of it. The crops failed for the first two or three years the land was in his possession. He then bought all the live moles he could obtain, first at seventy-five cents a dozen, and then at fifty cents, and turned them down in his fields; and the crops began to improve every year, and at length rapidly. One year, in which he had sixty-four bushels of barley on an acre, and nearly fifty-six bushels of wheat, the moles were at work all the summer, and in such numbers that, as he walked among the growing crop, the ground under his feet was like a honey comb; but that was the last year he had a mole on his land; their work being done, their food—the former pests to the crops—being all consumed, the little innocent workmen, who had performed a service beyond the powers of all the men in the parish, migrated to the neighbors to perform for them the same kind of benefit they had for him; but, of course, death met them at every move; and soon the colony was destroyed.

OIL AS MANURE.—Some of our agricultural writers still continue to recommend refuse oil as a manure. We have had some experience in this matter, and are satisfied that pure oil has little manurial effect on the cereals. The experiments which are cited to prove the value of oil as a manure, were made with refuse matter that contained considerable quantities of fleshy or nitrogenous substances; and the good effect produced—and which these writers ascribe to the oil—is unquestionably due to these matters, which, by decomposition, furnish ammonia. BOUSSINGAULT says: "I, myself, ascertained, from experiments made some years ago, with a view to test the conclusions of an agriculturist who ascribed the good effect of cake (rape-cake) to the fatty matters which it contained, that rape-oil had no kind of favorable influence upon the growth of wheat." This result is confirmed by the Rothamstead experiments: 500 lbs. of rape-cake, containing the same quantity of nitrogen as 100 lbs. of salts of ammonia, had no greater effect on the wheat crop than 100 lbs. of salts of ammonia. The large quantity of oil, and other carbonaceous matter supplied in the rape-cake, did no good, for the salts of ammonia which contained none at all had as great an effect.

AN ILLINOIS FARMER.—The editor of the *Prairie Farmer* has recently visited the farm of the Hon. JAMES N. BROWN, late President of the Illinois State Agricultural Society. We make the following extract from his description of it:

"His 'home farm' consists of 2250 acres of highly cultivated land; 600 acres of which is planted in corn, and which looks as well as any we have seen this season; the balance of his land is principally in grass, and is dotted over with horses, cattle, sheep, hogs, &c. We saw about seventy-five head of 'Stock Cattle,' forty of which are thorough bred Short Horn Durhams—and some of them will compare with any animals we saw at the National Fair at Boston last fall."

They must be A No. 1, then, for there were Short Horns at the National Fair at Boston last fall, which cannot be beat in the world.

AGRICULTURE IN SOUTH AMERICA.

The Journal of the United States Naval Astronomical Expedition to the Southern Hemisphere, contains some account of agricultural practices in South America, which we have read with much interest. The soil and climate is remarkably favorable to the production of nearly all kinds of grain and fruits; and nothing is wanted but *American* implements, skill and enterprise, to make it the garden and the granary of the world.

On the magnificent plains around Santiago, rotation and manures are alike unknown. Nothing saves the soil from exhaustion but the rich mineral deposit left during irrigation. As the surface has a natural and rapid slope from east to west, streams generated by the melted snows of the mountains fall with impetus towards the ocean, urging along masses of limestone and other rocks. By attrition these are converted into a fine powder, which is mingled with the water. Longitudinal canals along the base of the Andes, are supplied from rivers. These, in their turn, are tapped to furnish the different *haciendas*; and the water finally traverses the fields in ten thousand petty streamlets, or *acequias*, managed by a special class of experienced laborers, who have no other duty than to attend to them, preserve them from obstruction, and water the several fields at the intervals they require. Wheat fields ordinarily receive four irrigations between the cessation of rains in September, and the maturity of the grain at the close of November, on each occasion the fields remaining submerged one night, and sometimes during twenty-four hours. When the water is deep enough on the ground, the supply is reduced, until it equals the absorption and evaporation, thus preventing currents over the growing crops, and abrasion of the surface soil.

One result from this method of flooding, is the mineral deposit referred to, which, in some years, amounts to a stratum of three-fourths of an inch. A few years ago, the plain of Maypu, just south of the city, would not yield the planter four-fold of wheat. The surface was little more than gravel and coarse sand. But by treating it in this way, large proportions of it now produce from twenty to forty fold. Could the proprietors be persuaded to use deep or subsoil plows, and free the land from pebbles somewhat, it is impossible to fix a limit to the probable returns from the rich, sandy loam covering the whole surface of the valley. Not an ounce of manure has ever been intentionally placed on any part of it; and yet the successive floodings have elevated several fields more than half a foot.

The only implement for breaking up large pieces of ground, is an almost exact pattern of the old Roman plow. A knee-shaped log of wood, the larger end of which serves as a share, and the smaller as a handle, has a second straight log in it, near the joint, intended as a tongue or draught beam. The angle of the latter with the part forming the share, is varied at pleasure by wooden wedges; and the end of the share or mold-board is shod with iron, so as to form a sort of coulter. A yoke of oxen secured to the rude instrument, will scarcely open a furrow three inches deep, and, in fact, rarely penetrates as deep as a careful farmer would harrow.

From one and a half to two bushels of wheat are sown broadcast on each acre, and covered in by

dragging a bush over it, or sometimes a harrow, whose construction is on a par with that of the plow. This takes place in the autumn, as soon after the rains commence as the lands can be prepared. Hill-side fields, above the reach of artificial irrigation, are first attended to, that they may have time to mature under the influence of late spring rains and a warm sun.

The old sickle or reaping hook is still universal. The field is laid off in sections called *tareas* (tasks). The grain is suffered universally to stand longer than in the United States; and the loss by falling out and their mode of handling is considerable.

The description of the method of threshing out the grain is amusing. We copy it entire:

"The threshing out of the grain (*trilla*) is one of the annual events of most importance at the *hacienda*. Proportionate to the amount of ground cultivated in wheat, a spot slightly elevated above the rest is selected, leveled on top, and inclosed by stakes and cords. Sometimes young trees are planted around it though they are never permitted to attain any great height. As fast as the wheat stalks are cut on the field, they are brought to the *era*, the spot thus prepared, and piled up until there is not infrequently a very respectable-sized hill, even for the mountainous country. One may appreciate this from the fact "La Compania," a single estate formerly belonging to the Jesuists (Compania de Jesus), produces annually more than fifty thousand bushels of wheat. (The *trilla* of 1851 yielded thirty-two thousand fangas, or about seventy-two thousand bushels.) As soon as the pile within the *era* is high enough, the *inquilinos* are summoned, and their friends invited to frolic, the *patron* providing a daily feast as long as the work lasts. In this way, one, two, and even four hundred animals are employed. If the estate does not possess so many, they are either borrowed for the occasion from relations or intimate friends, or are hired in the neighborhood. On the appointed day, they are divided into two equal droves, each of which is again subdivided and retained under control of its particular *inquilino*. A small part of the pile being raked out so as to cover the entire surface of the *era*, the horses are driven in squads, each followed by its supervisor, well mounted. When the animals are all arranged, at a shout from *major domo* seated upon the top of the pile, the whole drove is started to a full run; after a given number of turns, the count of which is kept by the *major domo*, he calls out *vuelta* (wheel); the race in that direction is arrested, and they turn upon their tracks at a like speed. Away they go, round and round again, dust and straw whirling in clouds among the excited mass, maddened by the shouts and gestures of the drivers, and the crowds who throng the stakes or trees of the inclosure. Greatly do the boys love to climb the posts to urge on the half-tamed animals with domestic whips, as if themselves were not sufficiently scare-crows to frighten any ordinary horse. Among so large a number, terrified by shouts, and screams, and occasional lashes, from half a hundred men and boys, half the time buried and blinded by flying straws, it would be wonderful if all retained their footing. Under such circumstances, a stumble is necessarily attended by a piling up of all who follow. But such is the mass of straw, and the extraordinary skill of the natives as horsemen, that they are rarely injured; but as the cat is reputed to do in like cases, they are pretty sure to land on their feet. Knowledge of horses, and horsemanship, begins with early boyhood, and often, too with early *girlhood*; for there are not a few of the gentler sex in Chili, who at times manage their steeds with a skill and fearlessness startling to us astronomical sailors."

FAST DRIVING AT CATTLE SHOWS.

MESSRS. EDITORS:—The enclosed was written by an old and much esteemed friend, in whose opinions I have great confidence, and which in this case coincide with my own. You can give it a place in your paper, if you think proper.

SETH SPRAGUE.

On a hasty glance at the Secretary's Report for the last year, I am pleased to notice that yourself and some others have queried, as to the expediency of introducing *racing and race-courses* at our Cattle Shows. I can not doubt, that all such movements have a demoralizing tendency. They bring in a class of persons to participate, with whom the substantial farmer has no satisfaction in associating. They encourage *betting, gambling, and other analogous vices*. It is idle to say, that the speed of the animals should be limited to *four or five miles an hour*. I should as soon think of limiting the velocity of the wind. This is a fair topic for the consideration of the Board of Agriculture, who should have a supervisory view over the expenditure of the agricultural funds of the Commonwealth. If races are to be made, let them be made by *jockeys*, and by them only.

Very truly, yours,

Hon. Seth Sprague.

J. W. PROCTOR,

We find the above in the *Boston Cultivator*. We are decidedly opposed to the demoralizing practice of *racing*, and have had occasion heretofore, to express our fears that the "*Trials of Speed*," which have of late been introduced at many of our State and County Fairs, would engender a love for the turf and its attendant evils, which cannot fail to retard the usefulness of legitimate agricultural exhibitions, and if persisted in, to lead ultimately to their abandonment. We are well aware that it is necessary to make Fairs attractive in order to obtain sufficient money to pay premiums and other expenses, but this can be accomplished without a resort to any such questionable practices as the one referred to. A good exhibition, except in unusually unpropitious weather, always pays. To doubt it is to doubt the enterprise and intelligence of our agricultural population. Offer judiciously liberal premiums, appoint good judges, select the right place and the proper days for holding the Fair, charge a small fee for admission, and get a good man to deliver an *agricultural*—not a political address, and our word for it, there will be no need to resort to *Trials of Speed*, *Lady Equestrianism*, or *Baby Shows*, to call out a crowd. In alluding to the above letter from Mr. PROCTOR, the editor of the *Cultivator* (SANFORD HOWARD,) says:

We presume that *trotting* rather than what is technically called "*racing*," is alluded to. It is a subject deserving the consideration of the managers of Agricultural Societies, both in a moral and physical view, though at the same time not so easy to be adjusted as some may suppose.

The propagation of horses possessing a certain amount of speed in the trot, is obviously worthy of encouragement. Vast numbers of horses are used for purposes where dispatch is an important requisite. Under the new order of things introduced by the use of steam as a motive power, a desire to increase the speed of the horse has naturally followed. But as *extreme* speed is often obtained at the sacrifice of lasting powers, it becomes a question how far that property shall be cultivated. It is well known that many horses which would be of very little value for permanent use, can trot at a rapid rate for a short distance with a light weight. It is plain, therefore, that speed is by no means the only requisite in any *useful* class of horses, and should not of itself merely, be considered a practical merit.

We are aware that against our position may be cited the practice of the United States Agricultural Society. At the last show of this Society, no less than one thousand dollars, besides the premiums on "*trotting stallions*," was offered for *more speed* in trotting mile heats. The premiums were nothing more nor less than *purses* for the *fastest* trotting, and in several of the classes the highest were taken by horses which a good judge would scarcely have at any price, for regular business purposes. In some instances the animals were *geldings*, so that whatever might have been their value, nothing could be gained by them to the breed. But considering what they actually were, their incapacity for propagation is not a matter of regret. We leave it for others to point out the advantage to the community, morally or pecuniarily, of expending money in such a way.

For ourselves, we believe that wherever the production of that class of horses denominated roadsters is an object, it is proper for agricultural societies to test, to a certain degree, the speed of animals offered as *breeding stock*. We do not think it necessary that they should be put to their highest speed; but a just decision in regard to the merits of competing animals cannot be made without fairly comparing their action. We would do this in reference to only *one* of the requisites to be considered, and would give no encouragement to speed any further than it was found combined with the points of shape, constitution, and other properties necessary to make a useful and serviceable horse. Is there anything in this which would necessarily lead to betting, gambling, or any other immoral practice?

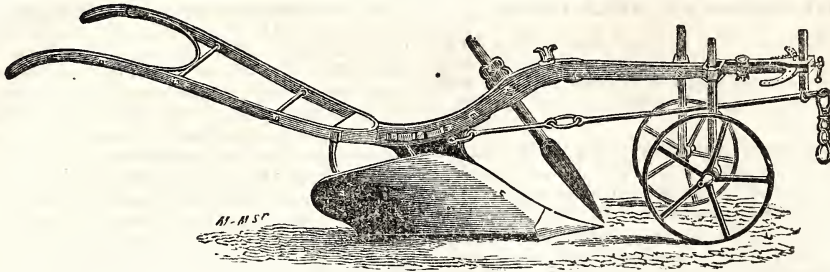
THE FERRET FOR DESTROYING RATS.—In England, nearly every farmer keeps ferrets for destroying rats and rabbits. In this country they are hardly known, but are just now beginning to receive a little attention. The *Prairie Farmer* says:

"The ferret is a native of Africa, whence it was imported into Spain for the purpose of destroying the rabbit, with which, at that period, that country was injuriously overrun. From Spain it has spread over the rest of Europe, as a domesticated animal. From the earliest times it was used in the capture of rabbits, by being turned muzzled into their burrows. It is now used not only by the warrener, but also extensively by the rat-catchers.

"Some ten years since, there was living near Huron, Ohio, a professed rat-catcher, an Englishman, who, with a cage of ten or fifteen ferrets, and accompanied by several Scotch terriers, visited the farms and villages through Huron county, ready, for a fee of five dollars, to carry death and dismay into the colony of rats and mice inheriting the premises. I was witness to one of these professional operations. The terriers, keen for the sport, were posted about the buildings; then the ferrets, lean, lank and hungry, were let slip into the holes and runaways of the rats.

"Now commenced such scampering, squeaking, racing, bustle and confusion as was truly exciting. If the rats remained in their holes, death was certain; for the ferrets could with ease follow through any opening a rat could pass; and if they attempted to escape by flight their fate was equally sure; for the little active dogs, willing allies of the ferrets, were ready to seize them the moment they made their appearance. Thus a war of extermination was carried on with bloody success.

"Ferrets are very sensitive of cold, and require to be kept snug and warm, especially during the winter, as they perish if exposed to the severity of the season."



HOWARD'S PRIZE PLOW.

HOWARD'S PRIZE PLOW.

At the trial of agricultural implements connected with the Paris Universal Exhibition, Howard's Prize Plow proved to be very much lighter in draught than any other. We believe it is, for medium soils, the best plow in Great Britain. The accompanying engraving will give some idea of its construction. It is made wholly of iron—principally wrought iron. The mold-board is very long and full, and turns a neat, smooth, unbroken furrow, at an angle of about 45°. There is much difference of opinion in regard to the use of wheels. Scotch farmers think they increase the draught of the plow, while many intelligent English farmers express the opinion that by keeping the plow steady, and at a uniform depth, they lessen the draught, or, at all events, that the horses appear to perform the work with less labor. We incline to the latter opinion. Whether this is so or not, there can be no doubt on one point, the wheels lessen the labor of holding the plow, and of turning at the ends. In fact, the plow will run without holding. In the old-fashioned system of three horses tandem, we have seen the plowman walk beside the horses from one end of the field to the other, leaving the plow to take care of itself. The large wheel, which runs in the furrow, and regulates the width, is usually about two feet and a half in diameter; the small wheel, which runs on the unplowed land, and regulates mainly the depth, is about two feet in diameter. The wheels are so attached to the beam that they can be raised or lowered in a minute.

The handles are of great length; and however awkward they may look to an American, and however inconvenient they might prove when plowing round stumps, there can be no doubt that they enable the plowman to guide the plow with great ease.

By means of the rod shown in the cut, all strain is removed from the beam, and the line of draught is much more direct—a point of great importance, as there can be no doubt that less power is required.

GALLS ON HORSES, &c.—One of the best means to prevent galls on horses is to wash the parts most liable to injury with *whiskey saturated with alum*. We find in one of our exchanges the following receipt for an ointment for wounds and sores of all kinds, and for horses, when galled by the saddle or collar, and also for broken chilblains: Take of honey 12 ounces, yellow beeswax 4 ounces, compound galbanum plaster 6 ounces, sweet oil half a pint. Put the honey into a jar, by the fire; then melt the other ingredients, and mix them together; to be spread very thin on linen, and changed twice a day.

CAMELS ON THE OVERLAND ROUTE TO CALIFORNIA.—The camels and dromedaries that our government ordered from the east, to be used on the western plains, have arrived at Indianola, Texas, where they now are to be seen daily marching through the streets. By the last accounts, through an Indianola paper, the camels are employed at the present time, in carrying government freight from Powderhorn to the depot in that place. They carry the great weight of 1,600 pounds each, and with the greatest ease, upon their backs.

The dromedary is employed by the Arabs as their riding nag, while the camel is used as a beast of burden. This is the only distinction made between them. The first will move along at a brisk trot, at the rate of one hundred miles per day, or with a speed approaching that of the railroad cars; and we do not hear of any smash-ups, or trouble from the lack of ventilation. One would think this the very perfection of traveling. The word dromedary means swift. The camel gets over the ground on a walk as fast as a horse at a trot.

PEAS FOR PORK-MAKING.—A correspondent of the *Ohio Farmer* says:

"Several years ago, I planted some peas in my corn, at the time I gave it the last plowing, which was about the 4th of July. I did this merely as an experiment, to ascertain whether they would mature, and how they would produce without cultivation.

"I was much gratified to find that they produced abundantly, and matured before the fall frosts came in. I am fully of the opinion, that by sowing the right sort of peas, before plowing the corn the last time, pork may be fattened on peas, without any corn, more than the waste corn in gathering the crop."

UNLOADING HAY BY HORSE POWER.

IN Mr. LEAVITT'S celebrated "Cascade Barn," at Great Barrington, Mass., there is an apparatus for unloading hay which lifts up a whole load at a time, and deposits it in the bay, at the rate of a ton of hay each minute. This is a machine, however, that is not adapted to the wants of the generality of farmers. It is true that it will unload a *thousand tons* of hay in a short time, and at little expense; but where, as on most farms, the hay crop is gathered in small quantities each day, such an apparatus is of little or no use. In fact, we question if it will unload half a ton of hay at as little expense as it can be done by hand. We believe it requires six men to attend to it! Although, therefore, it is exceedingly ingenious, and accomplishes the purposes for which it was designed, it is not adapted to the wants of the farmer.

We believe, however, that a machine may be constructed, at a little expense, that would lessen the labor and time required to unload hay. Where hay is put in stacks, it would perhaps be difficult to apply the machine; but where it is put in barns, there appears to be no difficulty in the way. Will not some of our ingenious mechanics turn their attention to this subject?

The accompanying engraving represent a machine for unloading hay that has been used on some farms with success. It is simple, cheap, and can be made by any farmer; but it admits, we think, of considerable improvement.

The machine consists of three pulleys, about 80 feet of $\frac{3}{4}$ -inch rope, and a large fork (fig. 1). The head of the fork is about 23 inches long, and $2\frac{1}{2}$ inches square, made of good hard wood. The handle is $5\frac{1}{2}$ feet long, morticed into the head, and secured from splitting by a strap of iron clasped round the head, and extending some distance up the handle. The prongs are made of steel, twenty inches long, $\frac{3}{8}$ inch thick at the head, and tapering to a point. They may be set in the head at equal distances apart, with a burr attached to screw them up tight. Two ropes, or rods of iron (*a, a*), three feet long, fastened to the ends of the head, are brought together at *b*, to which a pulley is attached. A small rope (*c*) is fastened to the end of the handle, in length to suit the height of the barn, by which the fork is kept level as it is raised to the top of the mow, where the hay is discharged by slackening the rope.

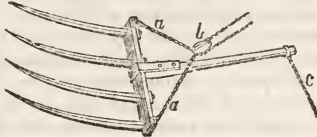


FIG. 1.

THE MANAGEMENT OF YOUNG TURKIES.

We extract the following hints on the treatment of young turkeys from *Brown's American Poultry Yard*:—"Some books tell you to plunge the chicks in cold water, to strengthen them; those that survive will certainly be hardy birds. Others say, 'make them swallow a whole pepper corn,' which is as if we were to cram a Newtown pippin down the throat of a new-born babe. Others, again, say, 'give them a little ale, beer, or wine.' We know, unhappily, that some mothers are wicked enough to give their infants gin; and we know the consequences. Not a few advise that they be taken away, and kept in a basket by the fire-side, wrapped in flannel, for eight or ten hours. Why take them away from her? She has undergone no loss, no pain, nor labor; she wants no rest, having had too much of that already. All she requires is the permission to indulge undisturbed the natural exercise of her own affectionate instinct.

"As in the case of young fowls, the turkey chicks do not require food for several hours. There is no occasion for alarm if, for thirty hours, they content themselves with the warmth of their parent, and enjoy her care.

"Give them nothing; do nothing to them; let them be in the nest, under the shelter of their mother's wings, at least eight or ten hours; if hatched in the afternoon, till the following morning. Then place her on the grass, in the sun, under a roomy coop. If the weather be fine, she may be stationed where you choose, by a long piece of flannel tied around one leg, and fastened to a stake or a stone. But the boarded coop saves her ever-watchful anxiety from the dread of enemies above and behind—the crow, the raven, the hawk, the rat, the weasel—and also protects herself—she will protect her young—from the sudden showers of summer. Offer at first a few crumbs of bread; the little ones, for some hours, will be in no hurry to eat; but when they do begin, supply them constantly and abundantly with chopped egg, shreds of meat and fat, curd, boiled rice, mixed with cress, lettuce, and the green of onions. Melted mutton suet poured over barley or Indian meal dough, and cut up when cold; also, bullock's liver boiled and minced—are excellent things. Barley, or Indian meal, mixed thick and stiff with water or milk, nettle tops, leeks, and many other things, might be added

to the list; but it is probable that a few of these may now and then be refused by some fanciful little rogues. Little turkeys do not like their food to be minced much smaller than they can swallow it, indolently preferring to make a meal at three or four mouthfuls to troubling themselves with the incessant pecking and scratching in which chickens so much delight. But at any rate, the quantity consumed costs but little; the attention to supply it is everything.

"The young of the turkey afford a remarkable instance of hereditary and transmitted habits.

From having been tended for many generations with so much care, they appear naturally to expect it almost as soon as they are released from the shell. We are told that young pointers, the descendants of well-educated dogs, will point at the scent of game without any previous training; and so turkey chicks seem to wait for the attention of man before they can have any experience of the value or nature of those attentions. Food which they would refuse from a platter, they will peck greedily from the palm of a hand; a

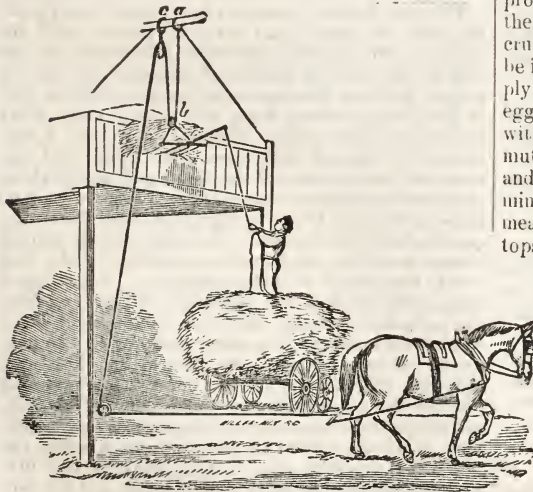


FIG. 2.

In adjusting the machine, let one end of the main rope be attached to the peak of the rafter, about three feet over the bay, as at *a*, fig. 2, which represents a section of the barn; thence let it pass through the pulley *b* on the fork; then through the second pulley *c*; then through the third pulley *d*, fixed to the lower part of the door post, to give a level draft for the horse. One man on the load, another in the mow, and a boy to lead the horse, constitute the force necessary to unload hay in this manner.

crumb which would be disdained if seen accidentally on the ground, will be relished from the tip of the finger. The proverb that 'The master's eye fattens the horse,' is applicable to them, not in a metaphorical, but in a literal sense; for they certainly take their food with a better appetite if their keeper stays to distribute it, and see them eat it, than if he merely set it down and left them to help themselves.

"Abundant food for the mother and her young, constant attention to their wants, are the grand desiderata in rearing turkies. An open glade, in a grove, with long grass and shrubs here and there, is the best possible location. A great deal is said about clear and fresh water for turkies; but I have observed that if left to their own choice, they will be as content and healthy with the rinsings of the scullery, or the muddiest pool, as with the purest spring. The long grass will afford them cover from birds of prey; the hen will herself drive off four-footed enemies with great courage. Insects, too, will abound in such a situation. When the little creatures are three or four days old, they will watch each fly that alights on a neighboring flower, fix it with mesmeric intensity, and, by slow approach, often succeed in their final rush. But in the best position that you can station them, forget them not for one hour in the day. If you do, the little turkies will for a time loudly yelp,

"Oh, then remember me!"

in notes less melodious than those of a *prima donna*, and then they will be sulky and silent. When you at length bring their delayed meal, some will eat, some will not. Those that will not, can only be saved by a method at all other times unjustifiable, namely: by cramming; but it must be done most gently. The soft crumb of bread rolled into miniature sausages should be introduced till their crops are full. For drink, many would give wine. I advise milk. The bird wants material, not stimulant.

"The time when the turkey hen may be allowed full liberty with her brood, depends so much on season, situation, &c., that it must be left to the exercise of the keeper's judgment. Some, whose opinion is worthy of attention, think that if the young are thriving, the sooner the old ones are out with them the better, after the first ten days or so. A safer rule may be fixed at the season called 'shooting the red,' a 'disease,' as some compilers are pleased to term it, being about as much of a disease as when the eldest son of the turkey's master and mistress shoots his beard. When young turkies approach the size of a partridge, or before, the granular fleshy excrescences on the head and neck begin to appear; soon after, the whole plumage, particularly the tail feathers, start into rapid growth, and the 'disease' is only to be counteracted by liberal nourishment. If let loose at this time, they will obtain much by foraging, and still be thankful for all you choose to give them. Caraway seeds, as a tonic, are a great secret with some professional people. They will doubtless be beneficial, if added to plenty of barley or Indian meal, boiled potatoes, chopped vegetables, and refuse meat. And now is the time that turkies begin to be troublesome and voracious. What can you expect else from a creature that is to grow from the size of a robin to 12 or 15 lbs., in eight or nine months? They will jump into the potato ground, scratch the ridges on one side, eat every grub, wire-

worm, or beetle that they find, and every half-grown potato. From thence they will proceed to the rutabagas; before the bulbs are formed, they will strip the green from the leaves, thereby checking the future growth of the root. At a subsequent period, they will do the same to the white turnips, and here and there take a piece out of the turnip itself.—They are seldom large enough before harvest to make so much havoc among the standing grain, as cocks, hens and guinea fowls, or they have not yet acquired the taste for it; but when the Indian corn begins to ripen, in August or September, and the young wheat comes up, in October or November, they will exhibit their graminivorous propensities, to the great disadvantage of the farmer. The farmer's wife sees them not, says nothing, but at Christmas boasts of the large amount of her turkey money. One great merit in old birds (besides their ornamental value, which is our special recommendation) is, that in situations where nuts, acorns and mast are to be had, they will lead off their brood to these, and comparatively (that is all) abstain from ravaging other crops. It is, therefore, not fair for a small occupier to be overstocked with turkies (as is too often the case, and with other things also), and then let them loose, like so many harpies, to devastate and plunder their neighbors' fields.

SCAB OR ITCH IN SHEEP.

At a late meeting of the Royal Agricultural Society, Prof. SIMONDS, Veterinary Surgeon to the Society, delivered an interesting article on the parasites of our domestic animals. We extract a few of his remarks on the *acarus*, a mite which produces itch in sheep.

The scab in sheep occasions heavy losses every year. Its cause for many years was not known; and the merit of our present satisfactory information on the subject, was due to a German physiologist, who clearly proved the wide distribution of acari or mites, in dirt or filth, sugar, cheese, flour, and almost every other form of vegetable matter—there being scarcely a substance not affected with them. He found that the male and female *acarus* of the horse and of the sheep possessed well-defined characters in the case of each of those animals, the former being the cause of the mange, and the latter of the scab. The study of their natural history would, in Prof. SIMONDS'S opinion, be the best clue to the means of their destruction. These mites were endowed with the capability of traveling from one animal to another; and the scab disease of sheep was known to extend [to a whole flock, leading to fatal chronic disease. Since 1848, Prof. S. had instituted numerous experiments, for the purpose of ascertaining whether the mites belonging to one class of animals, had the power of engendering the same disease on animals of another class; in other words, whether the mite which produced scab on sheep was capable of producing mange on the horse and the dog, and the contrary. He tried these experiments again and again, with every variety of circumstance, but entirely failed to produce such results. It had, however, been alleged that in Germany success had attended similar efforts.

The acari, or mites, varied much in shape. Pediculi, or lice, existed in the greatest variety. They could only live, however, in that particular part of the animal's body to which they were adapted.

He then referred to the period which elapsed between the deposition of the acari on the skin of sheep and the development of the scab disease, as a question affecting

the purchasing of sheep, and the liability attached to that transaction. First a slight redness came on the skin; albuminous fluid was exuded, which matted together the adjoining wool. In a few days, definite pain was felt by the animal, which violently attempted to scratch itself by rubbing the part against any resisting object. The irritation extended to ten or twelve inches. The disease advanced with rapid progress. Acari had traveled over other parts of the body. In sixteen days, fifty or sixty eggs of the acarus were found at the base of the wool. Large, thickened crusts, of a white appearance, were formed. The health of the animal and its skin became generally affected. Large scales of scabs ensued, which, on being raised, a great number of acari could be detected. Inflammation had ensued on the skin. The itch in the human subject arose from the same cause. The acarus burrowed beneath the scale of the epidermis or outer skin; the itch-mite insinuated itself within the skin; while the mites of the horse and the sheep made their attacks upon the skin.

REMEDIES.—Prof. SIMONDS recommended common mercurial ointment, rubbed down with three times its weight of lard, as directed by Youatt.

"The quantity of ointment applied to each sheep may vary from a few drachms to two ounces, one-third of the quantity being used for a lamb. The sheep that has been thus dressed, may be considered, at least, as incapable of infecting any of the others. The itching will soon subside; the acari will either be destroyed by the mercury as soon as they appear on the skin, or it will penetrate to their deepest recesses, and poison them there; or if at the expiration of ten days, there should continue to be much uneasiness or itching, another but a lighter dressing may take place. This ointment will have a kindly effect on the roots of the wool, encouraging their growth and that of the natural yolk, and forming a comfortable and most useful defence against the cold of the ensuing winter."

Professor Simonds remarked that arsenical applications were more potent, but they required great care. The best mode was that of sprinkling a solution of arsenic, again and again, over the diseased parts. The preferable form of such solution, was that of arseniate of potash, blended with vegetable infusions, such as those of foxglove, stavesacre, henbane, dock roots, &c. He recommended two ounces of arsenic, and two ounces of carbonate of potash, to be boiled together in a quart of water until dissolved, when a further quantity of water was to be added to make up a gallon of solution. To this gallon of solution, a gallon of vegetable infusion was to be added, made by pouring a gallon of boiling water over four ounces of foxglove leaves, and allowing the infusion to remain till cold, when it is poured off. These two gallons of liquid constituted a safe agent, and one of the most potent remedies for scab. Half a pint of it, at intervals of a few days, was to be sprinkled (from a bottle, through a quill in the cork) on the skin at the back and sides of the sheep. Two or three dressings would be found sufficient to cure the most inveterate cases of scab in sheep.

RATS.—A good rat trap may be made by filling a smooth kettle to within six inches of the top with water, and covering the surface with chaff. The first chap who gets in makes an outcry because he cannot get out; and the rest coming to see what the matter is, share the same fate.

MANURING was known, practised, and considered essential to good husbandry in the fifth century of our present era; perhaps we may yet give a history of manuring from the earliest to the present day.

REMEDY FOR HOVEN IN CATTLE.

The *Louisville Journal* recommends the following remedy for hoven in cattle:

"As soon as you discover the affection, which you will know by their swollen appearance and uneasy movements, make a stout straw rope, well twisted, about as thick as your wrist; turn the cow into her stall, and putting the rope, into her mouth, tie it over the top of her head, behind her horns; secure it well, and turn her loose. In her endeavors to get rid of the straw rope, she will so turn up her head as to allow the escape of the gas, and in fifteen minutes she will be relieved.

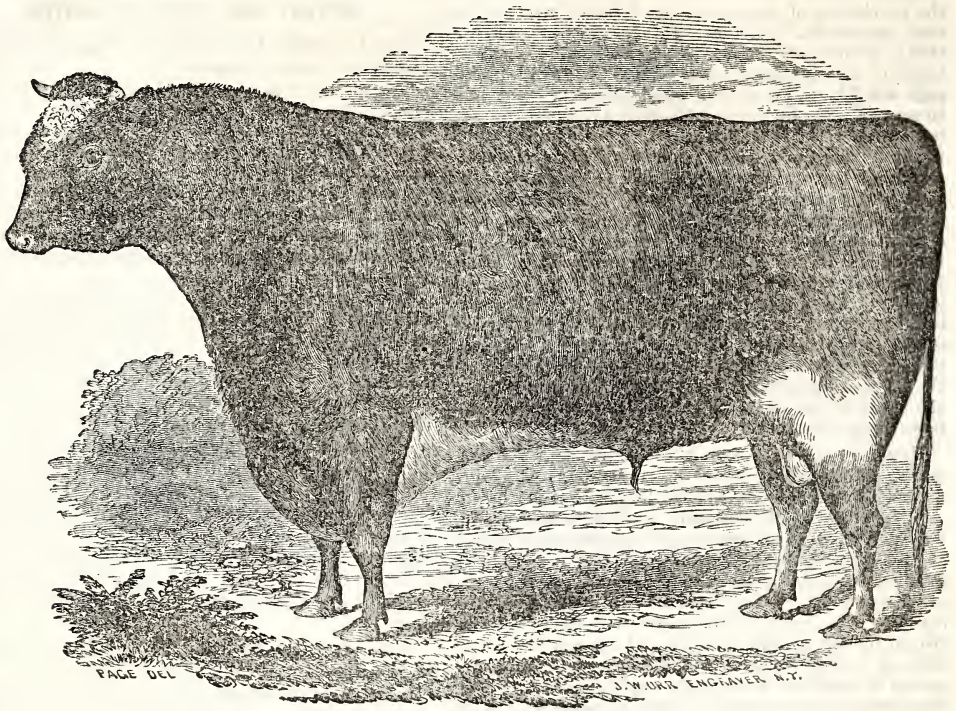
"Some five or six years ago, we found six of our cows thus affected at the same time; having somewhere read of the above remedy, we tried it, with immediate success; the cattle were so much affected, that they must have died if not relieved. We have seen it tried several times since, and always with success."

In the spring of the year, when cattle are turned into clover for the first time, they eat greedily; and if the dew is on, or the clover is wet from rain, it is apt to ferment in the stomach and to produce hoven. Prevention is better than cure; and farmers should be very careful not to turn cattle into clover until it is dry; or if the weather is so showery that the clover is wet all day, the cattle must be allowed to stay in the field only a short time, and to eat only a small quantity.

Many remedies are recommended for this disease. If the animal is not too much swollen, two or three table-spoonfuls of liquid ammonia, given in a pint of water, or whisky and water, frequently gives immediate relief. Two drachms of chloride of lime, in two quarts of warm water, is also an excellent remedy. If neither of these are at hand, a quart of lime water, as strong as it can be made, will be found useful.—The dose should be repeated in about twenty minutes, if the animal is no better. Lime water can readily be made by pouring boiling water on quick lime, stirring it well for a few minutes, and then allowing it to settle. If a little of the lime is mechanically suspended in the water, it will do no harm.—After the animal is recovered, it is well to give a quarter of a pound of Epsom salts to allay inflammation.

SHEEP AND MISFORTUNES.—Perhaps there are no other animals so imitative in their disposition as sheep. Not only will they leap over a fence in imitation of one that has been frightened over, but if the fence should be knocked down before all the flock is over, the remaining portion will leap just as high as though the fence was there. LONGFELLOW thus alludes to this ovine characteristic:

Never jumps a sheep that's frightened
Over any fence whatever,
Over wall, or fence, or timber,
But a second follows after,
And a third upon a second,
And a fourth, and fifth, and so on—
First a sheep, and then a dozen,
Till they all, in quick succession,
One by one have got clear over.
So misfortunes, almost always,
Follow after one another—
Seem to watch each other, always!
When they see the tail uplifted,
In the air the tail uplifted,
As the sorrows leapeth over,
So they follow, thicker, faster,
Till the air of earth seems darkened,
With the tails of sad misfortunes.



SHORT HORN BULL DUKE OF GLOSTER.

SHORT HORN BULL DUKE OF GLOSTER.

This remarkable bull was bred by the Earl Du Róie, and at the great Tortworth sale in 1853, was purchased by Messrs. MORRIS & BECAR, for the sum of three thousand three hundred and fifty dollars (\$3,350). If we mistake not, higher prices were obtained at this sale than at any other sale in England. Forty-nine cows and heifers sold for £6,867, or an average of about \$700 each; thirteen bulls and bull calves brought £2,494 16s, or an average of about \$950 each. "Duke of Gloster" was the gem of this celebrated herd, and commanded the highest price.

Last summer we had the pleasure of examining the "Duke of Gloster" at Mt. Fordham, and have no hesitation in saying he is one of the best bulls we ever saw. We annex his pedigree:

Red; calved September 14th, 1850; bred by Earl Du Róie. Sire Grand Duke (10284.) Dam Duchess 59th by 2d Duke of Oxford (9046)—Duchess 56th by 2d Duke of Northumberland (3646)—Duchess 51st by Cleveland Lad (3107)—Duchess 41st by Belvidere (1706)—Duchess 32d by 2d Hubback (1423)—Duchess 19th by 2d Hubback (1423)—Duchess 12th by The Earl (646)—Duchess 4th by Ketton 2d (710)—Duchess 1st by Comet (155)—by Favorite (252)—by Daisy Bull (186)—by Favorite (252)—by Hubback (319)—by J. Brown's Red Bull (97).

CARE IN STOCK-BREEDING.

MR. EDITOR:—The June number of the *Farmer* is at hand, and its contents noted with interest.—Was much interested by a few remarks on breeding animals, under the head, "Animals become Parents too Early." I am convinced that carelessness in breeding, or *accidental breeding*, causes one of the greatest leaks in the farmer's purse. It must be either that farmers do not *think*, or that they act contrary to their own convictions in this important matter. They, of course, know, that if like does not always produce like, the tendency must be in that direction. This subject stands more prominently in my mind from my observations in this vicinity this season. The cows are served by yearling males of small size, and in low condition, consequently totally unfit for the purpose of propagation.

It would be natural in such a case that the progeny should be small, and lacking in many qualities which should characterize an animal which is to be reared as a source of profit; *and such is in fact the case*—the calves being small in size, with narrow loins, small muscles, and all the other signs denoting deficient stamina. I am fully convinced that it will pay to use a good breeder, even if the calves are to be used as veal. But if the animal is to be reared, either for work or the dairy, then the form and handling qualities become of the first importance.

I have known some dairies in which almost every animal was deficient in those points denoting a good milker, having long limbs, heavy necks and fore-quarters, and large horns, and where owners were going to sell out, being convinced *there was no profit in dairying*. At the present prices of veal, it seems

FOXES KILLING LAMBS.—I have a remedy which has never failed for the last fifteen years in practice, to wit: Mix sulphur and lard, and rub it on freely about the necks of the lambs. One application is usually sufficient. A. B. WILCOX—*Harpersfield, N. Y., in Country Gentleman.*

worse than folly to raise a calf that is not *about right*. I have found by experience that a pair of oxen with short, straight limbs, heavy quarters, well-ribbed home, and possessing a good muscular development, and handling *right*, will do about twice the labor, and fatten with half the expense, as a yoke of *sharky* animals. I consider it of the first importance that a breeding male should be kept in *condition*, as the jockeys term it; that is, its muscular powers should be kept up nearly to a maximum point. Some may say, "Well, well, I cannot afford to be so particular." But bear in mind that *attention to little things* is important to success; and it is the man who *thinks* more than the man that works, who finds his calendar sheet all right at the end of the year. B. W.—*St. Johnsbury, Vt.*

DISEASE AMONG THE HOGS.

A CORRESPONDENT of the *Prairie Farmer* says:

"A great many farmers at the West have lost hogs by a disease which they call the consumption. Hogs are troubled for breath, lose their appetite, and finally become so poor and weak that they cannot get up. Shortness of breath and starvation are the only symptoms of the disease. None ever recover, although some live months after being seized. The disease has been confined chiefly to hogs fed principally on corn ground with the cob and fed in the dry state, leaving the hogs to go to the trough and drink water with the cattle when they needed it. What is the experience of farmers further east on this subject?"

In the April number of the *Genesee Farmer*, we alluded to a somewhat similar disease which had made sad havoc among the young pigs in this neighborhood. It was thought by some farmers that the disease was produced by over-feeding the sow; and at the request of our friend, Mr. Hobbie, of Irondequoit, we wrote to Col. L. G. Morris, asking him to give us some account of his method of managing breeding sows. We have received the following letter in reply:

MOUNT FORDHAM, May 10, 1856.

JOSEPH HARRIS, Esq.—*Dear Sir*:—Yours of the 5th is received. Sows carrying their young should be well fed, but not over fed—just so as to keep their condition neither fat nor thin. Six weeks previous to the time of dropping their litters, they should be kept alone, in a good, dry pen, so as to become well-settled in their apartments and bed, and get a home and settled feeling. A week before the pigs are to be born, she should be fed rather lighter than previously; and after the birth, she should have some cold water and some ears of corn, to allay her hunger and thirst, but not so much, nor such kind of food, as to increase her supply of milk too rapidly, until after the little ones have got the milk fairly going; after which, increase the feed as the pigs increase their demand for it. Very little bedding should be kept under the sow, one week previous to pigging, and until after the pigs get strong enough to extricate themselves from entanglement in the straw, by which means they may be laid over and killed by the mother. Kind and gentle treatment should always be used at all times and under all circumstances, so that the mother and pigs are never frightened and startled suddenly by those that are in charge, or lookers at them.

I have gone more into detail than was necessary or required. I remain, yours truly, &c.,

L. G. MORRIS.

ATTEND TO THE LEGS OF YOUR HORSES.

CONSIDERING the important functions assigned to the legs and feet, upon which a great portion of the horse's value depends, it is a matter of some surprise that more attention is not bestowed on the subject. There are many breeders who never think of inspecting them till the animals are about to be broken, or if they observe any imperfections, they leave the remedy to its fate. The legs of young horses may be justly compared to willow twigs; you may train them to almost what form you please. By careful and judicious treatment, many defects may be relieved or corrected, if attacked in the earliest stage, before the parts have assumed an unyielding texture. Many of the imperfections to which the form of the leg is susceptible, may be traced to a portion of the hoof having been broken, worn away, or clipped off. In the event of such accident, the opposite side of the foot grows more luxuriantly, and the weakest portion, or lower side, having to sustain an increased weight, an uneven bearing for the foot is thus established. This will assuredly cause the leg to grow crooked, and very probably occasion a turning in or out of the toe.

The irregularity of shape is often seen in one leg, while the other is well formed. The pastern joints, in many cases, evince a disposition to grow too upright, or on the other hand to assume too much obliquity. The same principle which accidentally causes a limb to take an unfavorable growth or form may be adopted to restore it to its proper shape, providing it is attended to in time. Thus, if the inside of the near fore foot of a colt or young horse be broken off or worn down, it will cause the animal to tread more heavily on the inside than on the out, and the leg will become bent in consequence. To correct this it is only necessary to reduce the superabundant portion of the foot with a drawing knife, or rasp, so that the limb may have an even bearing. When the pasterns grow too upright, the heels require to be lowered; and the toes of those which are too oblique must be shortened. The texture of the hoof varies considerably in different animals. In some measure it is constitutional; and it is likewise affected by the state or condition of the land upon which the animal is reared.—*Mark Lane Express.*

INDIGESTION IN FOWLS.—MR. EDITOR: I have a beautiful Poland rooster, which was taken sick last February. I read many authors about diseases among fowls, and tried many remedies; but nothing seemed to do any good. He was still loose in the bowels; his crop remained hard; and he eat nothing. On the eleventh day he took no notice of anything; would not move unless I moved him. I thought he would die before morning. I therefore *opened his crop*, took out everything that was in it, and sewed it up again; and the next morning he began to eat, and is now the finest bird around. SARAH S. SARGENT.—*Buffalo, N. Y.*

There are many instances on record showing the good results of opening the crop in similar cases to the above. Mobray mentions a hen which sat about in corners, and did not eat, drink, or evacuate, and yet looked full, and not diseased. Her crop being totally obstructed, on an incision being made from the bottom upwards, a quantity of beans was found, which had vegetated there. On the wound being stitched up, it immediately healed, and little inconvenience remained.

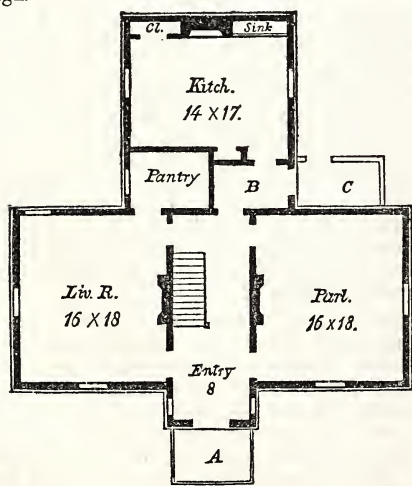
IF YOUR CALVES ARE TROUBLED WITH VERMIN, give them a table-spoonful of sulphur every other morning, for a week.



A SYMMETRICAL COTTAGE.

WHOEVER loves symmetry and the simpler kind of cottage beauty, including good proportion, tasteful forms, and chasteness of ornament, we think, cannot but like this little design, since it unites all these requisites. It is an illustration of a cottage made ornamental with very trifling expense, and without sacrificing truthfulness to that kind of tasteful simplicity which is the true touchstone of cottage beauty. This cottage is designed in the rural Gothic or English manner, but much modified, so as to adapt it to almost any site.

The light, open porch of this cottage may be omitted without injuring the design; but it gives the front an air of so much feeling and refinement, aside from its manifest utility, that we should always hope to see it adopted by those about to execute the design.



GROUND PLAN.

The kitchen is on the same floor with the living-room. Many families would prefer to use the room marked "parlor" in the plan, as a bed-room, and, if so used, the cottage would be a very complete one for

a small family—having living-room, bed-room, pantry, etc., on the same floor. But to others who would prefer to have no bed-room on this floor, a parlor would be looked upon as far more important.

In the plan, A is the porch, from which we enter the hall or entry, 8 feet wide, with the two best rooms—each 16 by 18 feet, on either side of it. Connected with the living room, in its rear, is a good pantry. B is the back entry, communicating with the kitchen. C is the back porch, which may be left open in summer and enclosed in winter, when it serve as a place for coal and wood. On one side of the kitchen fire-place is a closet, and on the other, a sink, into which, if possible, a water-pipe should be brought.

The first story of this cottage is supposed to be 10 feet, and the chamber story 5 feet on the sides, and 8 feet in the middle of the rooms. The pitch of the roof is a right angle.

As the entry, or hall, of this plan is wide, and the arrangements both simple and convenient, we think it will be difficult to build a more agreeable cottage, for the sum proposed, than the present design.—Though picturesque in its exterior, it is not so much so as to demand a highly rural or picturesque site, but would look equally well either in the suburbs of a town or in the midst of the country.

The chimneys in the elevation show one of the forms made in Garnkirk fire clay. These are sold by the importers (Jas. Lee & Co., New York and Boston) at from \$4 to \$6 each. The base of this chimney (of common brick work) should be carried up a couple of feet above the level of the ridge of the roof before the chimney-tops are set.

The exterior of this cottage is vertical boarding—of planed and matched floor plank, about ten inches wide. The window frames are from three to three and a half feet—inside measure—with a centre mullion and latticed sashes. The roof of the porch is nearly flat and roofed with tin, so as to form a balcony to the bed-room window over it.

The house is, of course, filled in with brick on edge, set flush with the outside of the frame, and the inside walls plastered on the face of the brick.



Horticultural Department.

THE LING OR WATER CHESTNUT.

WE are indebted to MESSRS. B. B. REDDING & Co., of the *State Journal*, Sacramento, California, for nuts of the Chinese Ling or Water Chestnut, (*Trapa bicornis*). They are a great curiosity, having the exact form of a ram's horn. They have the appearance of an elaborately carved piece of dark brown wood. The covering is very hard and consists of woody fibre. The nut is dry and hard, of a whitish brown color, very farinaceous and quite palatable, having the same shape of the pod. The accompanying engraving will give a good idea of this remarkable nut.



The *California State Journal*, translates an article in regard to the plant and the use of its fruit, from the *Paris L' Illustration Journal Universel*, from which we condense the following :

The Chinese are celebrated for employing as food a great variety of aquatic plants—plants which are in that densely populated country the more precious because they require but little care for their multiplication, and render useful and subservient to the interests of man, places which are entirely unfit for any other kind of agriculture.

Among the most valuable aquatic plants grown by the Chinese is the *Trapa bicornis*, called by them the *Ling*. The nut of this plant forms the principal article of food for whole districts where the rice crop is scarce. The *Ling* is grown chiefly in stagnant water, or those having but a very slight current. It is sown in the fall in the shallow parts of the lakes, in the swamps, and on the margins of the rivers, where it receives the full blaze of the sun, as the more the plant is exposed to the heat of summer the more prolific it is, and the better the quality of its fruit.

The unripened nut is very agreeable to the taste, and is much used by the Chinese as a refreshment for

the sick. When ripened it is boiled and eaten as we do chestnuts, or dried, hulled and ground to meal, which is used to make bread, gruel, &c., &c. The green fruit is also preserved in large quantities and used as sweetmeat for desert.

The plants bloom from June to August, and the ripe nuts are gathered in September and October.

A French author in describing the harvest says:—

‘Nothing is more curious than to see the women and children embarked in tubs which are used as boats to gather the crop. The noise, the songs, and the cheers of those strange gatherers reminds me of the joyous vintages in France.’

When all the tubs have been filled they are tied to one another in a long row, and a boat tows them to their place of destination. The reason tubs are used instead of boats is to prevent tearing the immense *lianes* or branches formed by the plant, which produces a large crop the succeeding year.

The *Trapa bicornis* is cultivated in all the different provinces, and is variously known as *Ling*, *Pi-Tsf* and *Ki-Chi*; and a less valuable variety, the *Trapa natans*, is also grown to some extent.

The *Liene Hoa* (*nymphaea nelumbo*) is also extensively cultivated for food, the fruit being dried, ground into flour, and then boiled and served up with salt and vinegar. It makes its appearance on the most aristocratic as well as the most common tables in the Empire. This plant is described as being very beautiful, and the scene in June is said to be magnificent, when over a broad surface immense quantities of the *Liene Hoa* spread like a carpet on the waters of a lake. The flowers, striped, pink and white, are the size of a poppy, and fill the atmosphere with a sweet perfume, and gladden the eye by the freshness of their looks and the brilliant beauty of their leaves.

The writer from whom the above information is obtained, in closing his remarks on the water plants of China, says that the Government appoints botanists in every section of the country, whose only business is to benefit the poor by making out every plant fit for the sustenance of man; to make perfect drawings for its identification; to describe it and the manner of its cultivation and the mode for preparing it for food, and to see that these descriptions are thoroughly circulated throughout the district.

The *State Journal* says this nut is found in a cooked state on the stall of almost every Chinese vender of edibles, in Sacramento, and remarks:

‘We do not anticipate that the *Ling* will ever be of any material use in this State, yet as we have the necessary sloughs, and swamps, and the proper climate, we hope that some of our amateurs will search for sound nuts and experiment upon them. It is possible, if the plant is prolific, and our Chinese population remains with us, that the *water-chestnut* may become a valuable addition to our agricultural products. At any rate it is worth trying, even for the novelty of its appearance.’

PEPPER GRASS VS. STRIPED BUGS.—It is said that a few plants of pepper grass in a cucumber hill will keep off the yellow bugs. Have any of our readers tried it?

AGE OF THE ROSE TREE.—SHENGEL mentions a rose tree, still living, which is upwards of one thousand years old.

THE DEUTZIA GRACILIS

THIS splendid little flowering shrub, I think, may be said to be perfectly hardy, it having stood the past winter without injury, with no protection whatever, save a little covering of snow. It came out this spring with every bud sound, and is flowering profusely. Its flowers are produced in bunches, upon the ends of branches of the present year's growth, from the best ripened wood of the previous year.—They resemble bunches of orange blossoms, of pure whiteness, minus the perfume. Its height is from nine to eighteen inches, possibly two feet; but owing to its recent introduction, and the great demand on the nurserymen for all they can propagate, I have not been able to see any larger. I have grown it in the green-house, in the hot-house, and in the open ground, the past two years, and eighteen inches seems to be a good season's growth for it. I am trying now to train up three or four as standards for winter flowering, which, I think, will be very ornamental: but owing to its naturally dwarfish habit, and its tendency to throw out suckers, as a bush, their progress, I must confess, is rather slow. After having grown eighteen or twenty inches, their tips become dwindling, and seem to grow "beautifully less." But it may be owing to a deficiency of light, for they are growing in the forcing house, beneath the vines. It is equally desirable in the forcing-house, the green-house or conservatory, the parterre, and the shrubbery. As a window plant, there is none more beautiful in winter; and none will last longer in perfection under the same circumstances. But for this purpose, it must be brought slowly into flower in the forcing-house, or in the green-house, before its introduction to the drawing-room; otherwise, the great depression of the atmosphere in the night usual to drawing-rooms, will make it flag too much.

The best soil for growing it in is rich, turfy loam, and part decayed leaf-mold, and a little clean lake sand, with good drainage. Its time of flowering (out of doors) is from the last week in May to the last of June. It is now (June 14) beautifully in flower. But, indoors, with a succession of plants to be brought forward to the forcing-house at intervals of two or three weeks, it may be had in flower from the first of February to the last of June. For flowering in February, it must be brought into the forcing house early in December. After flowering, they should be shifted into pots of about two sizes larger than those in which they flowered. After they have been shifted about a week, shoots from the bottom will be seen running up; the old tops which have flowered can then be cut out; and the young ones, as they advance, should be tied to small sticks, to keep them in their proper places. They must be kept in the cool end of the hot house, or warm part of the green-house, to keep them steadily growing until all chance of cold weather is gone (first week in June,) when they may be plunged in their pots up to the rim, out of doors, there to remain until October or November, when they must be taken up and cleaned, and the soil in the pots top-dressed a little (being careful that the drainage is perfect), and placed in the coldest part of the green-house, or any other place, where it does not actually freeze, from where they can be brought forward as wanted.

This second year they will flower earlier than they did the first, if necessary. If it be desirable to have

large plants, this operation can be repeated; if to have small ones, it will be necessary to propagate a few every year. For this purpose, take healthy cuttings of the present year's growth, about three or four inches long; cut them to a bud close under two leaves; cut the two bottom leaves off; and put them firmly in the earth up to the next two leaves; and give them a good watering once at first. The best soil for the cuttings will be equal parts of well-decomposed leaf-mold, and clean lake or river sand, well mixed and rubbed together, and pressed rather firmly in the pots. The most convenient sized pots will be about three or four inch ones, which should be perfectly clear and well-drained, by putting about an inch of broken charcoal, or other porous matter, in the bottom. When planted, they must be placed in the warmest part of the hot-house; the floor on which they stand kept moist and covered with a bell-glass; or, what is better, placed in a gentle bottom heat, on a hot-bed, and shaded from the sun. If properly managed, every cutting will grow. When they have become too large for pot-culture, turn them out in the open ground, where they will take care of themselves. J. SALTER, Gardener to J. F. BUSH, Esq.—*Rochester, N. Y.*

THE VINEGAR PLANT.—The *Rural Intelligencer* says:

"We spoke last April of a vinegar plant given us by a lady friend in Webster. We took it home to our office, procured at an apothecary's store one of his largest glass jars, holding some two gallons, filled it with common sweetened water, committed the plant to it, and there it has been ever since, spreading its folds upon the surface, till it was evident the vinegar had become strong enough almost for the death of the plant; whereupon, this week, we removed the original sweetened water, and supplied its place with new, for the plant to work upon. On drawing off the vinegar, it was found very strong indeed—almost as strong as lye—and for ordinary table purposes it will require to be diluted with fresh water. There is no mistake about it: this vinegar plant will keep our family in the purest vinegar as long as we shall need such an article."

EFFECTS OF THE PAST WINTER ON EVERGREENS. The *Ohio Farmer*, published at Cleveland, Ohio, after remarking that the past winter has been severe upon evergreens, states that "even the cedar of Lebanon, thought to be hardy, presents a miserable appearance—its foliage completely killed, and only a few, small, green buds scattered here and there over the branches." The Chinese arbor vitae (*Thuja Orientalis*) "got pretty well browned up, but is now recovering." It was slightly affected in exposed situations in this vicinity. The Norway spruce never lost a leaf, or changed in the least; nor did any of the conifers from the north of Europe. The Swedish juniper also stood the winter well. We should be glad to hear from other sections.

MOLASSES FOR CATERPILLARS.—A correspondent of the *New England Farmer* has found the use of molasses very effectual in destroying caterpillars. When they are in the nest, he has smeared it over with molasses; and none have ever escaped from it. They cannot travel over a limb where the molasses has touched; and it does not in any way injure the tree. He likes it better than gunpowder, soap suds, whale-oil soap, or even the thumb and finger!

CULTURE OF THE JAPAN LILY.

THIS superb flower, as its name implies, is a native of Japan, and like a great many splendid things from the same country, such as *Forsythia veridissima*, *Weigelia rosea*, *Dielytra spectabilis*, &c., is perfectly hardy. It blooms at a time when flowers are very scarce—about the middle of August—and this property, combined with their magnificent appearance and exquisite perfume, make them inestimable in every place having the least pretension to the name of garden.

There are three distinct varieties at present in cultivation, although doubtless they will soon be increased in number, as they are easily raised from seed. The white Japan Lily (*Lilium lancifolium album*) is a beautiful white, with raised spots of the same color. The red, (*L. L. rubrum*) is a beautiful crimson, with white margin, and covered with darker crimson dots; and the variety called *Punctatum* is white, with crimson spots; but the two first named varieties are the most desirable.

About the middle of May is the time for planting them. They should be planted in beds, or in rows about one foot apart. If in rows, a trench should be dug about six inches deep, and half filled with good leaf mould and sand. The bulbs should then be carefully planted, taking care not to pull off the old roots but spread them out nicely; then throw in a little more leaf mould and sand, and cover up with good fine soil. They will then be in about three inches deep, which is the proper depth to plant them. If in beds, the soil should be dug out six inches, and leaf mould and sand put all over the same depth as in the rows, and the bulbs covered in the same manner. Keep the beds clean and free from weeds, and the bulbs will take care of themselves, and no trouble need be taken with them, except occasional watering in dry weather, till they begin to flower. Then, especially if the weather is dry, they should receive liberal waterings with liquid manure, for these lilies delight in a rich soil, and the flowers will be much finer and better if they are treated in this way.

Although perfectly hardy, most people, even now, take them up every autumn; but they will increase much faster and, if in good soil, be much finer if left in the ground, than they would be if taken up. As soon as the flowers are gone, the tops begin to die off, and as soon as this takes place, the bulbs are fit to be removed or taken up.

It is a common thing in England to see one of these lilies with thirty fully expanded flowers on it; and when a plant reaches these dimensions, it is truly a magnificent object. W. T. GOLDSMITH—*Rochester, June 20, 1856.*

BUCKWHEAT A CURE FOR THE STRIPED BUG.—As our cucumbers, melons, &c., always suffer more or less from the striped bug, I would desire to give publicity to a cheap, and, in my opinion, a certain remedy; which is nothing more than to put in the hill with your seeds a small handful of buckwheat, leaving the buckwheat to grow until the melons, &c., have put forth the second vine leaf, and my word for it, neither the bug nor ground flea will trouble the vines, to their injury. I have this season seen a patch where a few hills had been left without the buckwheat, which were entirely destroyed—even also the second planting—while those with the buckwheat guard were vigorous, and not a plant touched. D.—*Gates.*

ARE WE RAISING TOO MUCH FRUIT?—The *Country Gentleman* thinks not; and his opinion is entitled to consideration. Hear what he says:

"The demand for fruit is at present increasing more rapidly than bearing trees; prices of the best pears have at least doubled within a few years; the finest winter varieties now sell readily, in the large cities, at one to three dollars per dozen; and the result of their sale, and consequent introduction to notice, is to make them better known and more sought after.

"The present appearances are, that it will yet be a long time before the market will be overstocked with them, and that prices will rather advance than recede. But those who would make their cultivation profitable, must not expect that planting out trees, simply, will answer the purpose; skill, knowledge, and attention must be brought into requisition. But while neglect will certainly end in failure, there is probably no business where well-directed intelligence promises more certain and more ample profits than the extensive culture of the finest fruits for market."

ATTEND TO THE CATERPILLARS.—Florists rarely think soon enough of the trouble moths will bring them, in their parterres and lawn shrubbery, and delay is often ruin. If the nests have been thus far neglected, a little attention now to bunches of withered leaves on healthy bushes, would reveal clusters of "lucky caterpillars," covered with their large web, working the mischief. They consume the pulp of the leaves that support them—then draw other leaves toward them, and devour those, or perforate them till they appear like lace. They will macerate the whole tree if left to themselves, but are so soon noticeable, the branch may be broken off and burned at an early period of their work; and two or three branches will very likely contain every one in the vicinity. In winter, these eggs may be destroyed even more easily, for they arrange like bracelets of hard beads around the naked twigs, and may be slipped off in unbroken bands. This caterpillar is striped like the shoulder tags of an English livery (or footman); hence it is called lucky caterpillar.

LADY BUGS.—Whatever else you destroy in the insect line, never injure a lady bug; for in its larvæ, its pupa (two stages of its metamorphoses), and its insect states, it feeds upon the aphids (the plant-louse or "vine-fretter"), that is so pestilent in gardens and green-houses, and even in window-gardening among parlor plants. Every child knows the lady-bird as well as the zoologist, who calls it "coleopterous," that is, sheath-winged—having its wings under cover of a pair of shells running longitudinally. The wings are of various brilliant colors, generally between orange and deep red. It belongs to the same genus of insects as the beautiful cochineal.

WHAT'S IN A NAME?—The *Country Gentleman* is responsible for the following:

"The reputation of a fruit has much to do with its sale, independently of its merits. As an example, a fruit dealer sent several barrels of this same pear (the Virgalieu or White Doyenne) to New York; a part marked as Virgalieus (by which market name they were widely known), and a part marked White Doyenne (by which they were not known). The former sold for nine dollars per barrel, the latter for only six, although gathered and assorted alike from the same tree."

CULTIVATION OF THE DAHLIA.

The Dahlia was first introduced into England about the year 1786, and again in the year 1803, by Lady HOLLAND. It is called after Prof. DAHL, an eminent Swedish botanist. Its native habitat is on the sandy plains of Mexico, where it was found by HUMBOLDT at a height of three thousand feet above the level of the sea; but on its first introduction it was a very different article to what it now is. Of late years it has been vastly improved, and such a splendid variety and combination of color, and, for so large a flower, such fine form, can scarcely be found in any other plant.

The proper season for planting the Dahlia is about the beginning of June, but this season plants from cuttings grown in pots, and which are the best plants for blooming, may be put out now with success. If dry roots are planted about the second week in May, they should be put into moist sand till the eyes are started, which ought to be about the end of this month, and then carefully divided; one strong eye with a tuber attached being all that is needed to produce a good plant. They should then be carefully planted about four feet apart, covering the tubers about three or four inches.

The best soil for them is a good sandy loam, and plenty of old, well rotted stable manure. When the plants have started, if the weather is dry they should be well watered, and should be kept growing as long as possible. The plants should be supported by a neat stake and kept securely tied, and care should be taken to have the stake on what will be the prevailing windward side, which will in most cases be the west, for I find that the plant is less liable to injury by being blown from the stake than where it is blown against it.

During the growing season, care should be taken not to let any suckers grow, and the first three or four sides shoots should also be taken off.

The first lot of flowers will make their appearance about the beginning of August, but they never amount to much, as the season generally is dry and the grasshoppers eat them badly. About September they make new growth and commence flowering in earnest; and then comes the time when the grower feels amply repaid for all his trouble, for the magnificent display which the Dahlia makes when well grown, justly entitles it to the name of Queen of Autumn, which it has received; and it truly is the Queen, for no other flower of its season can vie with it in majesty and beauty of appearance, brightness of color, and perfection of form.

The following varieties will amply repay any one the little trouble attending their cultivation, viz: Duchess of Kent, Aurora, Bob, Shylcock, Baron de Morelle, Beauty of Hastings, Clara, Unanimity, Mr. Selden, Queen of Primroses, Sir F. Bathurst, and Barmaid.

As soon as the tops are killed by the first frost, the stem should be cut off about six inches from the ground, and the roots allowed to stand for a few days to ripen off. When this has been done, choose a dry day, when there is not much moisture in the atmosphere, and dig the roots very carefully. Dig them up, and do not pull them in the least, for if you do you will pull out the necks of the tubers, thereby causing them to dry up and fall off. When dug, carry them to a cool, dry place, placing the stems

downward to allow the sap to run out, and when perfectly dry, carefully pick out all the dirt adhering to them; then, before they get time shrivel, place the roots in a dry cellar, where no frost penetrates, put them on a shelf, or in a box raised from the ground, first laying down some nice, clean, dry straw, then a layer of roots, stems downwards, then another layer of straw, and another of roots, and so on till all are disposed of.

They should carefully looked over every six weeks, and all decaying plants cautiously removed. Dahlias if kept in this way and properly treated during the growing season, will be a pleasure and a credit to any one concerned in their cultivation; but do not try them if there is any chance of their being neglected, for nothing is affected more by bad treatment than the Dahlia; a really first rate variety, if starved or neglected, will not be worth looking at. W. T. GOLD-SMITH—*Rochester, June 18th, 1856.*

WORMY APPLES.—ELIHU CROSS writes as follows to the *Country Gentleman*:

"Having been troubled with wormy apples for the last fifteen years, I thought I would try an experiment on one tree this season, to see if I could not stop these marauders in their wild career. I took half-a-dozen quart porter bottles, and filled each half full of sweetened water. I then suspended them from the branches of the tree in the following manner: I tied leather straps three-fourths of an inch wide around the branches, to prevent them from being girdled; to these leather straps I tied hemp strings, to which I attached the bottles, leaving them open to allow the millers to enter. I let the bottles remain in this situation five or six weeks, and on taking them down and emptying them, I found the millers had entered in great numbers, and were drowned in the liquid. In one bottle I counted fifteen—in another forty. I had twelve bushels of sound, wormless apples, while the fruit on other trees not experimented upon was wormy."

THE APPLE-TREE BORER.—In reply to an inquiry, the *Country Gentleman* says:

"If the borer is taken in time, there is no difficulty in destroying it by punching it to death in its hole with a flexible twig. The peculiar crushing tells at once the death of the destroyer. It is, of course necessary to do the work thoroughly, as often as two or three times a year, at least. A sharp wire, with a barb, would probably clear out any hole of anything left by the insect. We have seen trees rescued by this process, in which the borer had made great progress, and had perforated it in all directions; but it requires close attention and vigilance. Young trees, in which much injury has not yet been committed, may be easily kept clear, if often and thoroughly examined, not forgetting that the holes by which the trees are entered may be buried, by transplanting, below the surface."

BLACK WALNUT AS A SHADE TREE.—The editor of the *Prairie Farmer*, in some notes of a trip through Illinois, says:

"At Island Grove we saw some fine black walnut trees which were planted some twenty years ago, and are now in a thriving condition, and afford ample shade for stock, and are also an ornament to the farm. It seems to us that a row of walnut trees planted along the sides of our railroads, would make it much more comfortable for travelers, and at the same time, in a few years, would furnish timber for building purposes, sufficient to defray all expense of culture and care."

MARKETING FRUIT.

THE *Country Gentleman* has an excellent article on this subject, from which we make a few extracts, regretting that our space will not permit us to copy the whole:

"A good deal of excellent fruit has perished, all of which might have supplied the wants of the needy, in consequence of the headlong, unsystematic way in which it has been sent to market. Take, for example, the peach crop. A farmer has, perhaps, five hundred fine trees in bearing. He has never formed any plan for the sale of the crop, trusting that some dealer will come and ask for it, or intending to carry the fruit to market himself. The purchaser may or may not make his appearance. If he does not, no further arrangements are made till peaches generally are ripe. A general rush is then made from all quarters with them to the nearest town; the market is glutted; and they are sold for what they will bring. The report then spreads, as a matter of course, that there is no market for peaches; some are brought in; and many perish. In a few days, they are again scarce and high-priced; and if any peaches remain, perhaps another rush is made. In this way, the consumers are subjected to fluctuations in prices, and only procure them by snatches, not attempting to secure anything like a regular supply. Thus, perhaps thousands of bushels are rotting under the trees, while purchasers are deprived of them. The right way is to keep the entire community, who do not raise them, constantly and regularly supplied at moderate prices; this would be better for all parties. To accomplish it, every fruit-raiser should estimate, weeks beforehand, the amount of his crop, and the various periods of its ripening. He should then make a contract with a city dealer for the whole, to be supplied at regular and stated intervals, or employ an agent for their regular and continued sale, with the understanding that they shall be set at such moderate rates, that families can afford to go daily and obtain their regular supplies without fear of being shaved. If those who plant peach orchards would make a careful selection and distribution of sorts, so as to furnish a regular and uniform supply during the two or three months from the earliest to the latest, and would sell them at such prices as the community generally could afford to buy for daily use, probably ten times as many would be sold, at a greater average profit, and with a decided benefit to the health and purse of purchasers.

"Last year's crop of winter apples was nearly double the amount of average seasons; and prices ran low. Those who made early contracts with dealers found little difficulty; but barrels could not be obtained for all; and many remained undisposed of. Many owners resolved to keep their apples till spring, with the hopes of higher prices. When spring came, and decay was commencing, a general rush was made with them to the cities; the market was quickly overcharged; and, in New York city, good winter apples, but slightly injured by decay, were offered at about the usual price of empty barrels. The same management that we have proposed for the peach crop would prevent such a loss. Fruit-raisers must learn that there is an essential difference between selling wheat, which requires no management at all, except to get it to market, and selling perishable fruit, which requires a thorough knowledge of the business of picking, packing, transporting, and placing before purchasers. Those who are best informed on this branch of their business, are now in the practice of obtaining twice as much for their crops as those who sell to any purchaser who happens to come along, and who take but little pains in doing the work of cultivating, picking, and selecting

in the best manner. They have acquired a reputation for the uniform excellence and condition of their crop; and fruit sellers are not afraid to purchase of them."

TWO FINE GARDENS IN SALEM, MASS.

THE editor of the *Gazette* has recently visited "Old Salem," Mass., and gives a description of the gardens of J. S. CABOT and S. FISKE ALLEN. He was much pleased with a bed of tulips in the garden of the former, and says:

"It contains upwards of *one thousand* varieties, of every shade and hue, and it was in its most perfect bloom at the time we saw it, sparkling in the sun like a floral mosaic, and in its blended hues presenting an appearance not surpassed by scenes of fairy land, and richer than the imagination could conceive. It was a sight not soon to be forgotten; and we think the exhibition could not, without difficulty, be excelled. The plants were perfect and healthy; and the ultimate of tulip cultivation seemed to have been attained."

Of Mr. ALLEN's *Victoria Regia* he says:

"We visited his celebrated *Victoria Regia*, but one plant of which he has now living, all but this having been killed by the severe cold of last winter. This plant has been too often spoken of to need description at this time; but an examination of the spot where it grows, and the knowledge gained there of its requirements, and the delicacy of its culture, must convince one of the care and patience to be exercised in its development, that before was not appreciated. For several years an application has been devoted to it, that, in some families, would have been sufficient for the rearing of a large family of children; and the recompense has been in the satisfaction enjoyed in maturing the splendid plant, than which, to a man like Mr. Allen—an enthusiast in his favorite science—scarce more was wanted. We learned from him that this year he should discontinue its cultivation, a dampness proceeding from it that rendered it inimical to health, he himself having suffered therefrom. One bud of the mammoth lily is nearly ready to bloom. It puts forth but one at a time, and they follow each other in regular succession.

"In the same apartment with the *Victoria Regia*, are various other plants of tropical growth—plants of water and those of air—of very rare descriptions. Among these are the *lotus* of the Nile, African lilies, and air plants, whose old proclivity for impalpable diet is a matter of great wonder. A visit to Mr. Allen's graperies, in Flint street, was a great feature of our visit. This is nearly all in doors, for the rearing of choice descriptions, though several hybrid varieties—crossings between the *Isabella* and some foreign grape—bore the winter exceedingly well out doors, and show great vigor. Several glass houses compose his graperies, heated by steam pipes, and arranged on the most scientific plans for securing an even temperature. Nectarines, peaches and figs were seen in great profusion, ripening beneath the glass; and more than one hundred varieties of grapes are struggling for eminence some day, in our horticultural reports."

ARTIFICIAL MANURES FOR FRUIT TREES.—The best manures for fruit trees, under usual circumstances, are composts made of stable manure, turf, muck or loam, with a small quantity of ashes, and still less lime. The addition of guano, bone manure, &c., increases its value. The proportions may be one-third manure, over one-third turf, loam or peat, and a tenth ashes, a twentieth guano or bone manure. The special manures, applied separately, sometimes produce decided results, but not usually.—*Country Gentleman*.

GENESEE VALLEY HORTICULTURAL EXHIBITION.

THE Annual Exhibition of the Genesee Valley Horticultural Society, took place in this city June 25th and 26th. In everything except cherries, the exhibition was the best ever made by the Society. The display of roses was truly magnificent—ELLWANGER & BARRY exhibiting no fewer than 327 varieties, and A. FROST & Co., 319 varieties. A collection of peonies, containing 51 varieties, was shown by ELLWANGER & BARRY, which attracted much attention and general admiration. Many varieties were exceedingly beautiful; and we cannot but hope that they will soon take the place of the inferior kinds now commonly cultivated. This plant is perfectly hardy, and should have a place in every farmer's garden. J. SALTER, gardener to JOHN F. BUSH, Esq., exhibited a fine collection of green house plants. His seedling geraniums, eight in number, were very superior. The wax plant (*Hoya carnosa*) attracted much attention. He also exhibited 41 varieties of gooseberries, imported from England. Many of them, such as the Guido, Tim Bobbin, Roaring Lion, London, Long Waist, Plumper, &c., bid fair to be an acquisition. Mr. S. informs us that he is never troubled with mildew.

GEO. NEWLAND, of Palmyra, exhibited 31 varieties of strawberries, among them the Chilian, a very superior variety, and nine of his own seedlings, some of which promise well. He also exhibited stalks of rhubarb, from a seedling obtained from the seed of Ca-houn's giant pie-plant. C. F. CROSMAN, of Rochester, also exhibited some very large and fine rhubarb, only one year from seed. The stalks were two and a half feet long, and we judge, between four and five inches in circumference. He also showed some Frankfort Head lettuce, which were remarkably fine.

JOHN HAMPTON, gardener to SELAH MATTHEWS, Esq., exhibited some very fine strawberries, and a collection of green-house plants.

WM. GOLDSMITH showed 5 varieties of geraniums, 10 of Sweet Williams, 22 of roses, 17 antirrhinums, 7 petunias, 16 verbenas, 6 pansies, &c., which made a fine display. He also exhibited some very large Long Waist gooseberries, and some good heads of early Paris cauliflower.

H. E. HOOKER & Co. exhibited 15 varieties of strawberries, among them Hooker's Seedling, one of the very best varieties we have. Of this strawberry, the committee remark:

"Hooker's Seedling—Regarded by all the committee as the most valuable new variety; and the committee were divided as to whether this or Burr's New Pine is finest in flavor. Hooker's the largest and very productive."

Hooker's Seedling took the premium for the best quart of strawberries. ELLWANGER & BARRY exhibited 35 varieties of strawberries, and took the first premium for the best collection.

A. LOOMIS, of Byron, made a fine display of roses (139 varieties), peonies, &c. One of our daily papers well remarks:

"Mr. Loomis deserves much credit for the pains he has taken in propagating fine varieties of the rose. His collection was quite superior. The Society are indebted to him for aiding in making the exhibition worthy of the Genesee Valley.

"Some professional nurserymen and florists nearer the city, might imitate the enterprise of Mr. L. in this

respect, with advantage to themselves and the Society, which it ought to be their pride to support."

MRS. C. A. SHELDON, a teacher in Public School No. 14, exhibited an Herbarium of native plants, six hundred varieties, exquisitely prepared, with botanical and popular names, &c. This was regarded by all amateur and professional florists, as one of the best things in the exhibition.

MR. J. B. FULLER, of this city, and MR. P. PARKS, of Victor, also exhibited fine collections of wild flowers. This department of our floral exhibitions is beginning to receive that attention it so eminently deserves.

TWO BEAUTIFUL SPRING FLOWERING SHRUBS.

DOUBLE FLOWERING CRIMSON CURRANT—(*Ribes sanguinea flore pleno*.) There are few finer early flowering shrubs than the crimson currant. It originated in France, and was first introduced into the nurseries in 1845. It is now widely disseminated.



DOUBLE FLOWERING CRIMSON CURRANT.

The foliage and habit of the plant differ but little from other currants, but the flowers are produced long branches, like the old single crimson—having the same brilliant color, with the addition of being quite double. It flourishes, like all its family, in a common garden soil, and is readily propagated by layers or cuttings.

HOLLY-LEAVED BERBERRY—(*Mahonia Aquifoli*) This is a fine, hardy, evergreen shrub. Its habit spreading, and it attains the height of three or four feet. The foliage is dark green, glossy and prickly like the Holly. The flowers are produced in large heads or clusters, and are a beautiful clear yellow color. They begin to open early in April, and continue through all May. A single plant, or a mass of them on a lawn produces a fine effect. The color

contrasts well with the brilliant scarlet of the Japan Quince, (*Pyrus Japonica*), in bloom at the same time. In this country it succeeds well in any soil and



HOLLY-LEAVED BERRBERRY.

situation, but if possible it should be in a somewhat shaded place, where the sun will not reach it in winter with much force. It is so low, however, that it keeps pretty well in the shade. It is easily propagated from seeds and by division of the plant, as it throws up radical shoots freely.

ROSE BUGS, &c.—Especial watch should now be kept of choice rose trees, to detect the rose bugs, saw flies, gnats, leaf miners, leaf rollers, and green flies, that during and just after their blossoming period infest them. The rose bugs come up from the ground and are stupid and sleepy, and can be shaken upon cloths and killed. The leaf miner is orange colored, and conceals itself *within* the leaf, and may be traced by pale brown zig zag-zag lines in the leaf, with narrow black lines in the *center*, occasioned by the drying of the *epidermis* where the caterpillar has eaten out the pulp. This moth is the "red-headed pigmy," and must be destroyed by tobacco-water, or quassia, or lime. The "saw-fly" burrows into the flower bud and the grub eats its way out, and must be removed by hand-picking. The gnat occasions oak-gall-like excrescences on the branches by puncturing them; and the leaf rollers cut out pieces of leaves that, fastened in a spiral direction, enfold them in a case.

The rose moth fastens the bud to one of the leaves, previously folded, by slender threads. They must be smoked, picked and washed off, as best they may. The Aphis (green fly) especially disfigures the *white rose*, but appears in myriads on all rose trees before it is feared, and must be brushed gently off, or more securely banished by dipping the branches in infusions of quassia, lime or tobacco. Quassia is best, as the others require to be washed off before they have time to dry, as they hurt the vitality of the plant, and,

like snuff, leave unsightly particles on the leaves. A safe preparation of tobacco is half a pound to a gallon of hot water, which solution, of course, must be allowed to cool. Far better, however, than any of these solutions, is one of whale oil soap, in the proportion of two pounds to fifteen gallons of water, a discovery for which Mr. DAVID HAGGERSTON last year received one hundred dollars reward from the Mass. Horticultural Society.

LETTUCE AND CUCUMBERS.

LETTUCE that are becoming old, may be made white and tender by gathering up the leaves and tying them together with a string at the top. In this way, the plant will grow in the center, and will become something like an early York cabbage in shape. As soon as the leaves have been tied up, the ground should be thoroughly hoed; and if the ground be dry, water the plants freely. You can scarcely give lettuce too much water, provided you hoe them frequently.

I have always experienced much difficulty in the cultivation of cucumbers, from the ravages of the yellow bug, and a large, black insect. Many plans have been recommended of getting rid of these pests; and among others, pepper grass sown among the hills is said to be a prevention; but I have always found an ounce of cure to be worth a pound of prevention, which I administer early every morning while the plants are young, by killing all the bugs to be seen on them. The black bug is generally found eating the stem of the plant just above the ground, and is very destructive.

Cucumber vines, when bearing, require a great deal of water, which should be supplied at the roots, and also over the vines. When your vines begin to droop in the hot weather of July and August, it is almost a sure sign that they need water. I know of no plant that rewards the labor of good care and frequent watering more than the cucumber, both in the luxuriant appearance of the vines, and the large quantity of fruit produced. H. E.

THE CURCULIO.—During one of the discussions at the Fourth Session of the North-western Fruit Growers' Association, Mr. BARRY gave the following mode of checking the depredations of this insect. "He succeeded in growing a fine crop of plums by adopting a very simple remedy; in fact, the trees were breaking down with their load of fruit. They had exhibited this year forty varieties at the Horticultural Show.

"The plan of paving the ground under the trees, which has generally proved so successful, gave them the idea of beating the earth hard under the trees, to answer, in part, the same purpose. This was done at the first appearance of the curculio. A boy was sent among the trees daily, to jar the trees, and sweep up the insects and punctured plums, and destroy them. By this, the insects and larvae are destroyed, not only protecting the present crop, but making serious inroads in the next year's crop of insects. The habit of the insect is to fly from the ground upward, as it seldom takes any other direction than a perpendicular one; so if you reduce the number, you may in this manner secure a good crop, though your neighbor neglect to destroy them under his trees.

"He had more hope in this simple remedy than in any other, and had no doubt, when faithfully applied, it would in all cases prove satisfactory."

Ladies' Department.

HINTS FOR HOUSEWIVES.

TO CURE DAMP WALLS.—Boil two quarts of tar with two ounces of kitchen grease, for a quarter of an hour, in an iron pot. Add some of this tar to a mixture of slaked lime and powdered glass, which have passed through a flour sieve, and been completely dried over the fire in an iron pot, in the proportion of two parts of lime and one of glass, till the mixture becomes of the consistence of thin plaster. The cement must be used immediately after being mixed, and therefore it is proper not to mix more of it than will coat one square foot of wall, since it quickly becomes too hard for use; and care must be taken to prevent any moisture from mixing with the cement. For a wall merely damp, a coating one-eighth of an inch thick is sufficient; but if the wall is wet, there must be a second coat. Plaster made of lime, hair, and plaster of Paris, may afterwards be laid on as a cement. The cement above described will unite the parts of Portland stone or marble, so as to make them as durable as they were prior to the fracture.

MELTED BUTTER.—Put a table-spoonful of flour into a clean saucepan; mix it carefully with a little water at a time till you have about a cupful; now cut into it, in small pieces, four ounces of butter; shake it around rapidly till well mixed; then place it on the fire; watch it constantly, and keep shaking it and turning it around until it boils; it is then ready. Be careful to turn it one way, or the butter will oil; should this happen, you may recover it in some measure by putting into it a little cold water, and pouring it backwards and forwards several times.

GALL SOAP.—Take one pint of beef's gall, and cut up about two pounds of hard soap; put it over the fire; let it simmer until it is all dissolved; then pour it into a deep basin, and when cold cut in pieces. This soap is excellent to prevent any kind of colored goods from fading. Black calico will not become rusty if washed with it.—*Housekeeper.*

MACASSOR OIL.—Common oil, three quarts; spirit of wine, half a pint; cinnamon powder, three ounces; bergamot, two ounces. Heat them together in a large pipkin. Then remove it from the fire, and add four small pieces of alkanet root, keeping it closely covered for several hours. Let it then be filtered through a funnel lined with filtering paper.

TO PRESERVE PIE PLANT.—Perhaps there are some of your readers fond of this plant, who do not know that it makes an excellent preserve. For this purpose it should be put into pieces about half an inch long, and boiled with plenty of sugar, in the ordinary way of making preserves. *

TO MAKE CORN BREAD.—Two quarts corn meal, one quart rye, one quart of sweet milk, one quart of buttermilk, one teacup of molasses, one spoonful of salt, and one teaspoonful of soda. Beat with a spoon until well mixed. The crust, if not burned, will make an excellent coffee.

A NEW WAY OF MAKING BARLEY WATER.—Put two table-spoonfuls of pearl barley into a quart jug; two great spoonfuls of white sugar; a small pinch of salt; a small bit of orange or lemon peel, and a glass of calves' foot jelly; and then fill the jug with boiling water.

FOR THE CURE OF CROUP.—A piece of fresh lard, as large as a butternut, rubbed with sugar, in the same way that butter and sugar are prepared for the dressing of puddings, divided into three parts, and given at intervals of 10 minutes, will relieve any case of croup, not already allowed to progress to the fatal point.

A GREAT FAVORITE WITH INVALIDS.—Take one-third brisk cider, and two-thirds water; sweeten it, and crumb in toasted bread, or toasted crackers, and grate on nutmeg. Acid jellies will answer for this when cider cannot be obtained.

TO DESTROY BLACK ANTS.—The *Maine Farmer* says:—"One good way to rid the premises of black ants, is to bait them with a little honey, or other sweet matter, and then go at them with fire and brimstone. It may be done thus: clear everything out that will be injured by the fumes of burning sulphur; put some of the sulphur in an iron vessel, and, if you please, a little powdered saltpetre with it; set fire to it; shut the door, and fill the closet or the premises with the fumes. The sulphurous acid thus formed will penetrate into every corner and cranny, and kill the little 'varmints' whenever it can reach them."

The *Western Agriculturist* gives the following more genteel, but not quite such a wholesale way of killing them: "Mix a small quantity of arsenic with sugar placed on an orange peel, and put within their reach. They will eat it freely and perish."

SHIRT IRONING.—Dry your shirts, then make your starch quite thick, and add a little salt. Boil about twenty minutes; starch when hot. Rub them well; this is very important; then dry again. See that they are quite dry before damping; do not make them too wet, neither too dry. Fold very tightly; let them lie three or four hours before ironing. Iron the back first, by folding in the middle, and drawing it out from the front; then iron the sleeves, wrist bands and body; then the shoulder piece and the collar. If the shirt is gathered behind, draw the bosom down to the bottom of the shirt, so as to free it from wrinkles; have your plaits all smooth. Do not have your iron too hot, and be careful to keep it on till quite dry, or the linen will present a blistered appearance. Do not wipe your iron with a wet cloth; this will make it stick as soon as anything. We believe rubbing the starch well in, is the secret of good shirt ironing.

TO PRESERVE BUTTER A LONG TIME.—The late Dr. ANDERSON recommended for preserving butter a composition of salt, 2 parts; saltpetre, 1 part; sugar, 1 part; 1 oz. of this mixture to one pound of butter. It seems that butter thus treated will keep sweet for a lengthened period; but that for the first fortnight it does not taste well.

WORTH KNOWING.—In silk embroidery, if particles of cotton wool are worked under the twist or floss (stuffing) of grapes, buds, roses, and large leaves, it raises the work, and gives it a much richer appearance than that equally well executed without it.

EARLY RISING.—I would inscribe on the curtains of your bed and the walls of your chamber—"If you do not set apart your hours of reading, if you suffer yourself, or any one else, to break in upon them, your days will slip through your hands unprofitable and frivolous, and unenjoyed by yourself."—*Lord Chatham.*

Editor's Table.

STATE AND COUNTY SHOWS FOR 1856.

New-Jersey,	Newark,	Sept. 9—12.
Vermont,	Burlington,	Sept. 9 to 12.
Canada East,	Three Rivers,	Sept. 16—18.
Virginia,	Wheeling Island,	Sept. 17—19.
Ohio,	Cleveland,	Sept. 23, 24, 25, 26.
Canada West,	Kingston,	Sept. 23—26.
Am. Pom. Society,	Rochester,	Sept. 24—30.
Michigan,	Detroit,	Sept. 30—Oct. 1, 2, 3
New York,	Watertown,	Sept. 30—Oct. 1, 2, 3
Illinois,	Alton,	Sept. 30—Oct. 1, 2, 3
Pennsylvania,	Pittsburgh,	Sept. 30 to Oct. 2.
Kentucky,	Paris,	Sept. 30 to Oct. 5.
National Ag. Show,	Philadelphia,	Oct. 7.
California,	San Jose,	Oct. 7, 8, 9.
Wisconsin,	Milwaukee,	Oct. 8 to 10.
New Hampshire		Oct. 8, 9, 10.
Iowa,	Muscatine,	Oct. 8—10.
North Carolina,	Raleigh,	Oct. 14—17.
Georgia,	Atlanta,	Oct. 20—25.
Indiana,	Indianapolis,	Oct. 20—25.
Maine,		Oct. 28—30.
Alabama,	Montgomery,	Nov. 11—14.

NEW YORK COUNTY AGRICULTURAL FAIRS.

Albany, Albany,	Sept. 23, 24, 25.
Essex, Elizabethtown,	Sept. 18, 19.
Franklin, Malone,	Sept. 24, 25, 26.
Jefferson, Watertown,	Sept. 17, 18.
Monroe, Rochester,	Sept. 24, 25, 26.
Oneida, Rome,	Sept. 23, 24, 25.
Ontario, Geneva,	Sept. 24, 25, 26.
Oswego, ———,	Oct. 17, 18.
Rockland, New City,	Oct. 8, 9.
Schuyler, Watkins,	Sept. 8, 9.
Wayne, Lyons,	Sept. 23, 24, 25.

UNITED STATES AGRICULTURAL SOCIETY.—The Fourth Annual Exhibition of the UNITED STATES AGRICULTURAL SOCIETY, will be held at Powelton, (Philadelphia,) on Tuesday, Wednesday, Thursday, Friday and Saturday, October 7th, 8th, 9th, 10th and 11th.

The First Exhibition of this Society, held at Springfield, Mass., in October, 1853, was devoted exclusively to an examination of Horses:—at Springfield, Ohio, 1854, Cattle alone, were exhibited; at Boston, 1855, all departments of Farm Stock,—Cattle, Horses, Sheep and Swine, were shown.

The Society, encouraged by past success, and by the approbation of the Agricultural community, now propose to offer Premiums, not only for Domestic Animals, but also for Poultry, and the products of the Fruit Garden, the Grain Field, and the Vineyard, and for Agricultural Implements and Machinery.

Premiums from Twenty-five to Two Hundred Dollars, amounting in the aggregate to over Twelve Thousand Dollars will be offered for the various classes of Domestic Animals, Fruits, American Wines, Vegetables, Grains, and Agricultural Implements and Machinery.

A local Committee of forty citizens of Philadelphia, representing the various branches of industry, has already been appointed to co-operate with the officers of the Society, in perfecting arrangements for the Exhibition; and Fifteen Thousand Dollars have been guaranteed to meet expenses. This material aid, coupled with the excellence of the selected location, and the large amount of Premiums offered, induces the expectation that the Exhibition of 1856, will be superior to any of its predecessors.

Favorable arrangements for the transportation of Stock and other articles, will be made with the various Railroads.

The List of Entries, the Awards of Premiums, and the Proceedings, will be published in the Journal of the Society, for 1856.

The Premium List, with the Regulations and Programme of the Exhibition, will be furnished on application to Mr. John McGowan, Assistant Secretary of the United States Agricultural Society, 160 Chestnut Street, (Rooms of the Philadelphia Agricultural Society,) or by addressing the Secretary, at Boston,

MARSHALL P. WILDER, *President.*

WILLIAM S. KING, *Secretary.*

July 1st, 1856.

TO THE BREEDERS OF DEVON CATTLE.—The subscriber is now collecting materials for the Third Volume of the Devon Herd-Book, and takes this method of inviting breeders to send the pedigrees of all animals eligible for entry in the Work. It is desirable that all entries be received before the first of July, or as soon thereafter as practicable, in order that definite information may be given in regard to the time of publication.

All animals must be able to trace, on both sides, from unquestionable North Devon Stock; and to furnish the necessary evidence on this point, persons sending pedigrees should give the name and residence of the breeder of every animal referred to, unless such animal is registered in the First or Second Volume of the Devon Herd-Book, in which case reference to the No. will be necessary.

TERMS:—Each patron is expected to take at least one copy of the Work, the price of which will be one dollar, and also to pay twenty-five cents for the registry of each animal—registry fee to be paid in advance.

Cuts of breeding animals, properly executed, will be inserted in connection with their pedigrees, at a charge of \$7 each. They will be printed on fly leaves, in the best manner.

It will be recollected that there has already been published an American edition of the First and Second Volumes of the Devon Herd-Book, bound together, with a frontispiece of the Quarterly Testimonial, and two handsome Illustrations of English prize Devons. The price for these two volumes is two dollars. They will be forwarded as may be directed, on the reception of the above sum.

SANFORD HOWARD,

American Editor of the Devon Herd-Book.

Office of the Boston Cultivator,

Boston, Mass., June 1st, 1856.

ITALIAN BUCKWHEAT.—*Eds. Farmer:*—I saw in your June number an advertisement of "*Italian Buckwheat*." I sent by mail to the advertiser for a small sample of it, and received millet. O. COLLINS.—*Wilkesbarre*, June 19, 1856.

We thank our correspondent for the above; for although we cannot hold ourselves responsible for everything that appears in our advertising columns, we will not knowingly permit them to be used to deceive the public.

CURE FOR HEAVES IN MULES.—You may say to our friend J. D. K., Ohio, that in a conversation a few days since with an Englishman, he told me that he had cured mules which had the heaves very bad, by giving them *Savin*, about what would lie on a quarter dollar, in powder. In England he gave it green in the bou hs, and in six weeks' time, the mules showed no more heaves than if they had never had it. D.—*Gates.*

THE PARIS AGRICULTURAL EXHIBITION.—Our late European exchanges contain some account of the great Agricultural Exhibition at Paris, but the list of prizes which was made known June 6th, has not yet reached us. The entries in most of the Departments were very large. The catalogue alone is a huge volume of 479 pages!—There were 1,300 head of cattle exhibited; of these 195 were Short Horns—140 bred in England, and 55 in France. The Herefords and Devons were niggardly represented. The Ayrshires, Black-poled cattle, Black Angus, West Highland, and the Irish Kerry were not in full force, numbering about 200 head. Of the various Swiss tribes of horned cattle, there were no less than 228 animals; of the Dutch breed, 40 animals; of the Tyrolese and Austrian, 62 animals; of the long-horned Hungarian, Moravian, Gallican, Bavarian and Bohemian races, 46 animals; of Saxony, 12 animals; of Holstein and Denmark, 32 animals, and 4 buffaloes from Hungary. The French exhibited nearly 500 head—among them, 61 of the great Norman breed, 37 Flemish, and 36 of the beautiful white Charolais breed, so similar to our Short Horns. There was a considerable number of grade Short Horns—a cross of the Short Horn bulls with the native breeds—which, in the language of the *Mark Lane Express*, formed, "one of the most interesting features in the whole exhibition."

There were about 200 pens of sheep exhibited, containing 1,200 sheep; 500 of which were contributed by France, 400 by Great Britain, and the rest by Holland, Austria, Saxony, etc.

There were 171 pigs exhibited; 82 from France, 72 from Great Britain, and 17 from other countries. Of the 82 belonging to France, there were 62 representing the English breeds—a high compliment to British breeders.

In the Poultry class there were 474 coops, containing 1,400 birds.

In the Implement class there were 2,107 lots, comprising every kind of instrument or appliance connected with agriculture. Of these, 371 belonged to Great Britain, 3 to Australia, 83 to Belgium, 51 to Denmark, 5 to Holstein, 2 to the Roman States, 7 to the United States, 42 to the Grand Duchy of Luxembourg, 33 to Holland, 1 to Prussia, 5 to Saxony, 33 to Switzerland, 4 to Wurtemberg, and 1,430 to France.

In the Agricultural Produce department, there were 4,635 lots; 120 of which belonged to England, 430 to various other nations, and 4,065 to France, chiefly contributed by the Government Schools of Agriculture.

Next month we will endeavor to give a more detailed account of this grand exhibition.

PREMIUMS.—We had intended to announce the names of the successful competitors for our premiums this month, but owing to press of business, we shall have to defer it till the August number. In the mean time, we shall send a *Rural Annual and Horticultural Directory*, postage paid, to all those who have got up a club of eight subscribers. We presume it was the intention of the late publisher to send only to those who asked for the book, but we have received one or two letters which indicate that the offer was not so understood, and we shall therefore send the work to all who are entitled to it.

NATURAL BAROMETERS.—Chickweed is an excellent barometer. When the flower expands fully, we are not to expect rain for several hours; should it continue in that state, no rain will disturb the summer's day. When it half conceals its miniature flower, the day is generally showery; but if it entirely shuts up, or veils the white flower with its green mantle, let the traveller put on his great coat.

L. G. MORRIS' SALE.—This great sale of Short Horn and Devon Cattle, Southdown sheep, Essex and Berkshire pigs, &c., took place June 24th and 25th. The attendance was very large. The first animal led into the ring was the Short Horn bull Romeo, a cut of which we gave in the May number. He was knocked down to REHN & CUTZ, of Lancaster, Ohio, for \$600—a remarkably low price for such an animal. Suffolk Hero, a two year old, was next sold to GEORGE CLARK, Otsego county, N. Y., for \$325. Charlemagne, a yearling, for \$245, to JOSEPH HILTON, New Scotland, Albany county, N. Y. Marmion, for \$500 to P. & C. S. HAIMES, Elizabethtown, N. J. Jacinthas Romeo, for \$400, to JOHN HUNTER, of Pelham, Westchester county, N. Y. Chester, for \$300, to DAVID BROOKS, Avon, Livingston county, N. Y. Orpheus, for \$675, to J. P. Crippen, Coldwater, Mich.

The calves sold well: Belmont, for \$375, to AMOS F. WOOD, of Jefferson county, N. Y. Stanley, for \$230, to B. M. WHITLOCK, West Farms, Westchester county, N. Y. Barrington, for \$150, to JOSEPH ORVIS, Massena, St. Lawrence county, N. Y. King of Algeirs, for \$400, to ROBERT GORDON, Paris, C. W. Bailiff, for \$110, to JOSEPH ORVIS, Massena, St. Lawrence county, N. Y. This closed the sale of the Short Horn bulls, ten in number—the sales amounting to \$4,310.

The Devon bulls were next sold: Frank Quartley, for \$350, to B. P. JOHNSON, of Albany, N. Y. [This is nothing for such a bull.] The next were yearlings: Wawaganda sold for \$105, to G. D. PARRISH, Burlington, N. J. Master Butterfly, for \$340, to R. PETERS, Atlanta, Ga. Somerville, for \$155, to L. H. COLBY, Groton, Tompkins county, N. Y. Byron, for \$250, to FRANCIS MORRIS, Throggs' Neck.

At the time of our going to press, an account of further sales had not reached us.

CLOVER HAY.—The *Boston Cultivator* recommends the following mode of curing clover: "Cut the clover, if practicable, when free from wet. Leave the swaths unspread for three or four hours. Then, with forks, put the mown clover into cocks which will make each about fifty pounds of dry hay—taking care to lay it up in flakes, and rounding off the tops so as to give the best protection against rain. The process of curing will advance according to the state of the weather. By examination from day to day, a good judge can tell when it is cured, or how much more time it will require. When it is so near dry that it may be finished in one day, if the weather is fair, turn the cocks bottom upward, after the dew is off, and lighten the damp part as much as seems necessary, being careful not to dry it so much that it will powder in handling."

VENTILATING HAY STACKS.—The British farmers have a method of ventilating their hay, oat and barley stacks which we may frequently adopt with advantage; and in stacking cornstalks it would be always beneficial. They fill a large bag, say 3½ feet high and 20 inches in diameter, with straw, and place it vertically in the centre of the stack, putting the barley, oats or hay, whichever it may happen to be, round it. As the stack rises they lift the sack; and so on to the top. In this way there is a chimney formed in the center of the rick or bay, into which the steam or gases generated find their way and escape readily.

NEW WHEAT FROM ILLINOIS.—The *St. Louis Republican* of the 20th instant, says that on Thursday a quantity of new white wheat was received from Troy, Madison Co., Illinois—the first of the incoming crop that has made its appearance in the market this season.

Notices of New Books, Periodicals, &c.

THE RISE AND PROGRESS OF THE ENGLISH CONSTITUTION. By E. S. CREASY, M. A., London. Published by D. Appleton & Co., New York: 1856. Sold by D. M. DEWEY, Rochester, N. Y.

This is a book, as the title denotes, containing an account of the great and important events which have resulted in the formation of the present English government. It contains a copy of the great Charter which the barons extorted from King John in 1215; also of the Petition of Rights granted by Charles I; and also of the Bill of Rights, granted by King William III in 1689, on his accession to the English throne—the three great bulwarks of English liberty. These acts are of great interest not only to Englishmen, but to Americans; for upon them are founded most of the fundamental principles of our own government. It contains, also, a general history of the English people throughout the several stages of the growth of their government. It is a very interesting and valuable work.

A JOURNEY IN THE SEABOARD SLAVE STATES, with Remarks on their Economy. By FREDERICK LAW OLMS TED, Author of "Walks and Talks of an American Farmer in England." New York: Dix & Edwards. London: Sampson Low, Son & Co. 1856.

Those who have read the "Walks and Talks of an American Farmer in England," will not fail to get this book. For practical common sense, keen observation, and graphic descriptive powers, Mr. OLMS TED has no superior. This work, of some 700 pages, is as interesting as a novel, while it abounds with practical information on the social and industrial habits of the slave-holding States from Virginia to Texas. We cordially recommend the work to all our readers.

TRANSACTIONS OF THE NORTH-WESTERN FRUIT GROWERS' ASSOCIATION, at their Fourth Session, held in the city of Burlington, Iowa, September 25, 26, 27, 28, 1855. Edited by M. L. DUNLAP. Chicago: 1856.

This is a neat pamphlet of some 150 pages. It contains the address of P. BARRY, Esq., delivered before the Society during its session at Burlington; extended reports of the discussions; reports of the various committees, &c., &c.; presenting a mass of information of great interest to all engaged in fruit culture. We hope to enrich our columns by liberal extracts. Mr. BARRY and Mr. DUNLAP will please accept our thanks for copies.

HISTORY OF ROCK COUNTY, and Transactions of the Rock County Agricultural Society and Mechanics' Institute. Edited and compiled by OBRIN GUERNSEY. Janesville, Wis.: Wm. M. Doty & Brother, Printers. 1856.

We are indebted to Mr. GUERNSEY, Corresponding Secretary of the Rock Co. (Wis.) Agricultural Society, for a copy of this work. The book is a credit to the enterprising Society, and to its intelligent Secretary.

LIFE SKETCHES FROM COMMON PATHS; a Series of American Tales. By MRS. JULIA L. DEMONT. New York: D. Appleton & Co. 1856.

These "sketches" are well taken and cannot fail to interest. For sale by D. M. DEWEY.

Inquiries and Answers.

ANOTHER CURE FOR HEAVES.—A correspondent in Ohio asks for a remedy for the heaves. I can give you one that is said to be almost a specific; I do not however, vouch for it. Take of saltpetre 4 ounces; sulph. antimony 2 oz.; tartarized antimony 1 drachm; mix and divide into six doses. Give one powder for three nights in succession; then omit for a week, and repeat with the other three. If this does not effect a cure, he must try some other means. Yet I have known two cases (bad ones) that were said to have been cured with this remedy and nothing else. **ARLING—Rush.**

GUANO ON GRAVELLY SOIL.—In answer to a question in a late number of the *Genesee Farmer*, I will say, that in my opinion, guano does best on gravelly soil, having witnessed the effect of it on clay loam and gravelly soil, the past season. **S. K. GIVEN—Sheepscot Bridge, Me.**

GRAFTING LILAC ON AN ASH STOCK.—It has been said the lilac may be grafted on an ash stock. Can any of your readers tell us from experience, the process and the season, and whether it should be the white or the black variety of ash? **D.—Gates.**

ENGLISH HORSE BEANS.—Can you or any of your correspondents tell me through your paper what kind or kinds of beans the English farmers feed their horses, and whether they have ever been tried in this country, and with what success? **D.—Gates.**

Will some of our correspondents answer the above?

BOOKS FOR A YOUNG FARMER.—I am a young farmer, and wish to get a few good reliable books on agriculture. What can you recommend to me? **A. R.—Ohio.**

The following works may be read with advantage in the order named: Nash's Progressive Farmer, Norton's Elements of Scientific Agriculture, Dana's Muck Manual, Stockhardt's Chemical Field Lectures, Johnston's Agricultural Chemistry and Geology, Thae's Principles of Agriculture, and Boussingault's Rural Economy. As books of reference we may name Allen's American Farm Book, and Morton's Cyclopaedia of Agriculture. The former as being to some extent American, the latter as containing the more recent practices of British Agriculture. The list might be advantageously extended. One or two good, reliable agricultural papers will of course pay you weekly or monthly visits; and if you had a set of back volumes of the *Genesee Farmer*, or of the *Cultivator*, or of the *New England Farmer*, you would find them exceedingly useful. Indeed, we consider them indispensable to a good agricultural library.

HARVESTING BARLEY.—Can you give me a few hints in regard to the best time to cut and harvest barley? **W. S.—Oneida Co.**

Barley is quite ripe enough to cut when the reddish color on the ear has disappeared. When fully ripe the ear bends down to the straw, and is very apt to fall off in mowing turning, &c., occasioning much loss; while if cut too early it shrinks considerably, and is not so good for malting purposes. English writers, while fully admitting that in allowing barley to get quite ripe there is much loss, advocate the practice on the ground that it is next to impossible in any other way to get that *evenness* so necessary for malting purposes.

With a heavy crop of straw, we prefer always to bind up the barley into sheaves. The first expense is more, but there is less loss, and far less labor in carting, stacking and threshing. With light crops, if the barley was rolled—as it always should be—and the ground is smooth, it is doubtless the most economical mode to mow it, and stack it loose. It will need turning in the swath, and with a light crop this may be done with a hand-rake, and the loose barley between the swaths raked together at the same time. Barley needs considerable time in the field before the grain and straw is sufficiently dry and hard to stack. Barley straw, when not too ripe, we consider quite nutritious, but it must not be carried too soon, or, besides the injury to the grain, it will heat in the stack and be spoiled. MORRIS'S Cyclopaedia of Agriculture, recently published, says: "Barley requires from ten days to a fortnight of good weather to bring it into proper condition for being stacked, and in damp, hazy weather, considerably longer." Fortunately, such a rule, although applicable to Great Britain, does not hold good here; but you would do well to give barley sufficient time before stacking.

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

COLUMBIAN GUANO.

IMPORTED BY THE PHILADELPHIA GUANO COMPANY.

A. LONGETT, Agent,

34 CLIFF STREET, CORNER OF FULTON, NEW YORK.

I CALL the attention of Farmers and others interested, to the reports given below, showing the great advantage this Fertilizer possesses over all others. Its richness in Phosphates has never been surpassed by any other fertilizer known. Its application to the soil is easy, as will be seen by the directions given for its use. We are continually receiving the most satisfactory accounts from all that have given the Columbian Guano a trial, and have every reason to think that our farmers will find it equal, if not superior to Peruvian, as it is far more durable, and cheaper, and can be had at a price that will pay the farmer for its use; and we can but ask for our interests, and that of the farmer, a fair trial.

117 BROADWAY, BALTIMORE, May 20, 1856.

To Wm. F. Murdoch, Esq., Agent of Philad. Guano Co.

Dear Sir: The sample of Guano left with me by you for analysis, has been carefully examined, with a view to determine the manner in which the phosphoric acid is combined with the lime. In order to accomplish this, I had designed to make a separate estimation of the white hard crust, and the brown body of the rock, in the manner in which Drs. Higgins and Bickell made their analysis. I found, however, that the crust alluded to was so thin, and adhered so closely to the body of the rock, in the specimens contained in the sample, that it was impossible to separate it perfectly. I, therefore, have contented myself with examining the body of the rock, which constitutes by far the largest portion of the sample.

(From this I obtained results which are embodied in the following table:

Phosphoric Acid,*	46.22
Lime,	38.75
Phosphate of Iron,	0.35
Phosphate of Magnesia,	0.61
Sand,	0.63
Sulphuric Acid,	1.96
Choline,	Trace.
Organic Matter, Salts of Ammonia, and combined water,	8.95
Water, (hygroscopic,)	2.34

99.81

* In this is not included the small amount existing in the phosphates of magnesia and iron, both of which were estimated separately.

From this table it will be seen, that the opinion first propounded by me, as to the combination of phosphoric acid and lime in this guano, is borne out by the present analysis; that it exists, viz. in the form of a salt, composed of two equivalents of lime, one of water, and one of phosphoric acid.

The following table correctly expresses the composition of the body of the rock known as Columbian Guano, and making up the great bulk of the commercial article sold under that name:

Phosphate of Lime,	87.95
Containing { Phosphoric Acid,	46.22
{ Lime,	35.95
{ Water,	5.78
Sulphate of Lime,	4.76
Sand,	0.63
Phosphates of Iron and Magnesia,	0.96
Hygroscopic Water,	2.34
Organic Matter, containing Ammonia,	3.17

99.81

You have requested me to state the advantages which might be expected to be derived from this fertilizer in view of its chemical constitution. The first and most evident, is the uncommonly large proportion of Phosphoric Acid which it contains. It is by far the richest known source of this valuable substance. The amount of phosphoric acid which is contained in the 79.95 parts of neutral phosphate of lime, be on going to the sample analyzed, would if combined with lime, in the proportion to form bone phosphate, make 100.14 parts of that compound. Hence it follows, as a matter of necessity, that in the decomposition of this manure in the soil, about 12 per cent. more phosphoric acid will be given to the plant, than could possibly be extracted from the same quantity of bone earth, by the same solvents.

Another important consideration, is the greater solubility of this phosphate in ammoniated water. As all rain water, and most soils, contain ammonia, and as the organic part of this guano, when decomposed, generates a small quantity of the same alkali, the manure, while in the soil, will be acted upon by water, holding ammonia in solution. Now, this induces in the neutral phosphate, a change which does not take place in bone earth. On the latter it has no action whatever, but it converts the former into bone phosphate, by combining with a portion of phosphoric acid, to form

phosphate of ammonia. Columbian Guano may therefore be regarded as playing a very important part in the fixation of the volatile alkali.

The permanency of this manure is a matter so well understood by every practical farmer, that it requires no comment.

Very respectfully yours, &c., A. SNOWDEN PIGGOT.

Office of Inspector of Guano, 11 Exchange Building.

Analysis of an average sample of Columbian Guano, imported by Wm. F. Murdoch, Esq., Agent of the "Philadelphia Guano Company," March 17th, 1856, in the "Mary Elizabeth."

Phosphoric Acid,	40.25
Lime, &c.,	59.75
40.25 per cent. of Phosphoric Acid is equal to 87.21 per cent. of Bone Phosphate of Lime.	WM. SMITH REESE.

CHARACTERISTICS OF COLUMBIAN GUANO.

1. It is by far the richest source of Phosphoric Acid for the farmer yet known, containing one-third more than ground bones.

2. It contains less than one-fourth of the water always present in the Peruvian, and 20 to 30 per cent. less than any other guano—consequently it can be packed in bags, at a diminution of one-fourth the freight and packages, besides the convenience of handling, and subsequent value of bags.

3. It is sold as fine powder, and does not require sieving, as do the Peruvian and other Guanos, in order to their uniform application.

4. It does not injure the nails of the laborer in sowing, on account of the absence of lumps, and for the same reason it can be applied in one half the time, with a drill, with perfect uniformity. Whereas, guano containing lumps cannot be distributed uniformly, even with the aid of a drill.

DAVID STEWART, M. D.

Chemist of Md. State Agricultural Society.

DIRECTIONS FOR USE.

For Wheat and Small Grain—An application of 200 to 250 lbs. Columbian per acre, immediately after plowing, and lightly harrowed in, will produce not only abundant crops of grain, but will leave the ground with a luxuriant set of clover—thus benefiting the land for after crops. If desirable, it can be applied at the time of sowing the grain, and all harrowed in together.

For Corn—200 lbs. per acre. It can be applied either in the drill or broadcast; if the latter case, the ground should be lightly harrowed after the application.

For Potatoes, Turnips, Ruta bogas, &c.—200 to 250 lbs per acre in the drill or hill, after the seed is sown, will produce an abundant yield of either article.

For Grass Crops—The Columbian can also be advantageously used as a top-dressing for grass, clover, &c., at the rate of 200 lbs. per acre, applied immediately after the frost is out of the ground. It is also a valuable manure for garden vegetables, flowers, grape vines, fruit trees, &c.

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June 1—21. 34 Cliff street, corner of Fulton, New York.

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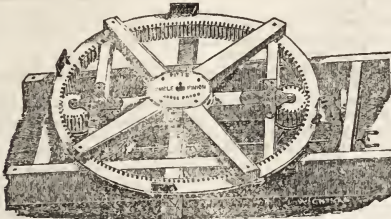
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PERUVIAN GUANO, No. 1, with Government brand and weight on each bag.....per ton of 2,000 lbs.	\$53.00
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Superphosphate of Lime....." " "	45 00
Bone Dust, Ground.....per bbl.	2.50
" Turnings....." " "	2.37 to 2.50
" Sawings or Meal....." " "	3.00
" Mixed fine ground....." " "	2.75 to 3.00
Plaster of Paris....." " "	1.00 to 1.25

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July 1.

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FOR SALE.

HAVING to devote my time to other business, I have determined to sell several Farms, now in cultivation under my own direction, and also a Grist Mill and Saw Mill. The mills are situated about six miles from the county seat in a thickly settled portion of the country, on never failing streams, and healthy locations. There are two run of stones in the Grist Mill, together with all the machinery for manufacturing flour, buckwheat flour, corn meal, &c. The mill is 60 by 40 feet, three stories high, with a 16 feet wheel. The Saw Mill is run by a submerged center discharging wheel, cast gear; and the Mills, within 80 feet of each other, are run by different streams, and were built in 1851. There is attached to the mills about 200 acres of land, part of which is in cultivation in grain and grass. There are four tenements on the land, rented out; three of them, without any land, pay \$100. The mills are under my own direction, and the miller rents the farm, and pays crop rent. The mills rented last year for \$400. There is a large portion of bottom land on this farm which is valuable. The Alexandria, Loudoun & Hampshire Railroad passes within 100 yards of the mill, where there is to be a station, &c.

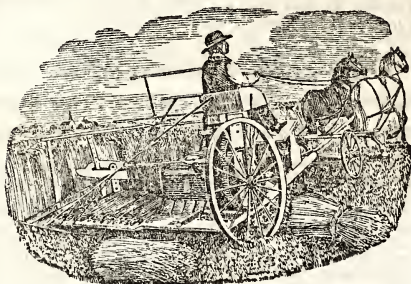
I also have a Farm of 100 acres adjoining the county seat, well improved, good house of brick, orchards, well watered, and all the necessary outbuildings. The Menasses Gap Railroad passes through the village, and also a turnpike road to Washington and Alexandria, which are distant about 15 miles. I have also another Farm of 100 acres, within three-fourths of a mile of the county seat, one half of which is in timber, and the other in cultivation. I am building a house on this, which will be finished by fall. I have also one other Farm of 120 acres, lying about four miles from the county seat, in cultivation by a Northern man, who has resided on it three years.

I will sell any or all of these Lands, &c., on reasonable terms. Persons desiring further information, can address the undersigned at Fairfax Courthouse, Va., who will give information, if desired, relative to his own or any other lands in this or the adjoining counties.

May 1, 1856—4t.

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JOSEPH HARRIS,

November, 1855.

Rochester, New York.

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A FEW WORDS ON BUTTER MAKING.

In all the operations of the dairy, the most scrupulous cleanliness is absolutely essential. The milk pails should be used for nothing but milking. After they have been used, they should be carefully washed and scalded, and hung up in an airy place to dry. Before being used, they should be well rinsed out with cold water. Great care is necessary to keep milk pans sweet. If a little curd gets in any of the joints, it is difficult to wash out; and if it remains, it will certainly sour the milk; for partially decomposed curd will curdle or sour milk sooner than the strongest rennet. The pans should be placed in boiling water for some time. Boiling water removes impurities much easier than cold water. In this case, however, there is an additional advantage in using hot water. Curd sours milk by acting as a ferment, converting the sugar of milk into lactic acid. But it has to be in a state of fermentation itself before it can induce fermentation in other bodies. Now scalding arrests for some time all fermentation in the curd, and consequently renders it incapable of doing any mischief, till, by the absorption of oxygen, &c., it begins again to ferment. Frequent scalding, then, is one of the best means of preventing any injurious effects from matter adhering to the milk vessels.

In butter making, extreme cleanliness is even more necessary than in cheese making. Cream is more easily tainted by noxious gases than almost any other substance. The vessels and the dairy house must be perfectly sweet. Flies and dust must be excluded; and it is not well to have more light than is sufficient for the performance of the necessary operations. It is, however, of great importance that the dairy be well ventilated, and that a circulation of cool, fresh air is constantly maintained. All fumes from the barn yard, the stables, piggeries, or other out-buildings, must on no account come near the cream. There should be a good drain from the dairy, with sufficient fall to carry off the water rapidly. Nothing has a stronger attraction for noxious gases than fresh water, and it should be used without stint. The drain especially should be frequently washed down with clear water.

HOW BUTTER EXISTS IN MILK.—When milk is drawn from the cow, the oil or butter is not, strictly speaking, dissolved in the water. It is contained in exceedingly minute sacks or bags of curd, which are suspended in the milk. By allowing the milk to stand and cool (of course the cooler milk is, down to 40° Fahr., the greater is its specific gravity), these little

bags of butter being specifically lighter than water, rise to the surface. Cream is an aggregation of these oil bags, with a little sugar and water.

CHURNING.—The object of churning is to separate the oil or butter from these bags of curd. This is accomplished by agitating the cream and breaking the films of curd, setting the oil free, which then runs together and forms lumps of butter. Cream, from the formation of lactic acid, is generally sour before churning, and if not, always becomes so during the operation. The lactic acid acts on the films of curd, and renders them more easily broken. During the process, the cream increases in temperature from 5° to 10°.

The best temperature at which to churn the cream is a disputed point. It appears, however, to be well established by numerous experiments, that 55° Fahr., when the cream is put in the churn, and about 65° when the butter comes, generally affords the best results. If higher than this, the butter is white and soft; if lower, the whole of the butter is not separated, and the labor of churning is much increased. In summer, the butter should not come in less than forty minutes. If obtained quicker, it is generally at the expense of color, flavor and hardness. After the cream is broke, it should be churned slowly until the butter is gathered.

WASHING OR WORKING THE BUTTER.—Some good butter makers do not wash the butter at all, merely working out the buttermilk by pressure. It is said that a better flavored butter is obtained in this way; but where good, cool spring water can be obtained, we prefer to thoroughly wash the butter, taking great pains to remove all the buttermilk. Butter generally contains about fifteen per cent. of water, curd, &c. It is important for the preservation of butter, that as much of this as possible should be removed. The quantity of salt required depends very much upon the quantity of water in the butter. The water should be saturated with salt; hence, the less water the butter contains, the less salt will be required for its perfect preservation. There are several machines for working butter, but we have had no experience in their use. If any of our readers have, we should be glad to hear from them.

CHURNING THE WHOLE MILK.—There are various opinions as to the advantage of churning the whole milk or only the cream. Some contend that not only is more butter obtained by churning the whole milk, but that it is of better flavor. There is probably a little more butter obtained, but that it is of better quality we may be allowed to question. In the neigh-

borhood of a large city, where, as in some parts of Great Britain, buttermilk is in demand, it will pay to churn the whole of the milk; but as a general thing, it is much less labor and far more convenient to churn only the cream.

In some of the best English dairies, the milk is skimmed every morning; and sometimes, when a very superior article of butter is required, the cream from the first or second skimmings only is churned—that from the milk when it is partially or quite sour, being churned separately for use in the kitchen. In this country, the milk is not generally skimmed till all the cream has risen, and it is all removed at once. This is probably the better way; for not only is it less labor, but the milk remains sweet much longer than when disturbed every morning by skimming—and this, in our hot weather, is quite a consideration. It is desirable that the dairy should be cool enough to keep the milk sweet sufficiently long to permit all the cream to rise to the surface; for there can be little doubt, that if the milk becomes quite sour or bitter before the cream is removed, the quality of the butter will be impaired. Milk, too, for butter making purposes, should not be placed in deep pans, or all the cream may not have time to reach the surface. For the same reason, the pans should be narrower at the bottom than at the top.

Probably a better quality of butter is obtained by churning the cream before it becomes sour. In hot weather it is almost impossible to do this, without churning every morning. A greater length of time is occupied in churning sweet than sour cream; but in hot weather this is no objection. When by fast churning, or any other cause, the butter comes in ten or fifteen minutes, it can hardly fail to be soft, white, and poor flavored. A celebrated butter maker in this State, who churns every morning in hot weather, has the cream so cold, and churns so slowly, that the butter is from one to two hours in coming. (He churns by water power.) When the butter is come, it is well washed and salted—6 lbs. Pacific salt to each 100 lbs. of butter. The next day it is re-worked till every particle of buttermilk is removed, when it is packed in tubs, and stored away in a cool cellar.

SUMMARY OF RULES FOR BUTTER MAKING.—"The chief points besides cleanliness," says an experienced writer, "in making good butter, are these: To milk at regular hours; to place the milk in shallow vessels; to have a perfectly clean cellar, with a hard brick or flag-stone bottom, and with shutters and wire screen windows, to admit air and exclude insects; to skim the milk the moment it coagulates or 'lobbers,' which will be in thirty to forty-eight hours; to churn the cream at a temperature between 60° and 65° [in hot weather 55° to 60° is better] by the thermometer; to free the butter as much as possible from buttermilk, and then add a sixteenth part of the purest salt; to work out the remaining buttermilk in twelve hours afterwards, and again in twenty-four hours, being careful not to work it too much at a time; to pack it closely in stone jars till nearly full, and then spread clean, white, muslin cloth over the top; pack closely a layer of one inch of fine salt upon the muslin; and finally cover the jar with a neatly-fitting tin cover. This is, substantially, the process of most of the best butter makers. Butter thus made will keep a year, if placed on the bottom of a cool cellar."

A PROFITABLE FARM.

On the 22d of last month we visited the farm of the Messrs. HAYWARD, in Brighton, near this city, and were much gratified with the luxuriant appearance and cleanliness of the crops, the excellence of the stock, and the general management of the farm. In 1851, the Messrs. H. received the New York State Agricultural Society's first premium for the best managed farm. The farm contains about 89 acres, some 68 of which are under cultivation. In 1851, the total receipts of this farm were \$2,726.79. The total amount of expenses was \$770.17, leaving a net profit of 1,956.62 or \$28.77 per acre. This is, of course, leaving out the interest on the money value of the land. Since then, the receipts have, some years, exceeded the above figures. The receipts over and above expenses average about \$2,000 per annum.

The farm is now managed entirely by the son, Mr. E. S. HAYWARD. We found him busily engaged harvesting his wheat. He has but three and a half acres, but will obtain more wheat from it than many farmers will from a dozen acres. Mr. H. thought it would yield 40 bushels per acre. It is very thick on the ground, straw bright and stiff, and ears large and well filled. It does one good to look at such wheat, and we like to recall the image, and to believe that, contrary to the opinion of some, "the days of Genesee wheat are [not] numbered." So far as we could see, the midge had injured it but little, if at all. Mr. H. attributes the excellence of the crop to sowing good seed and plenty of it. He got the seed from Canada (Canadian Soules), and sowed two bushels per acre. Certainly there was nothing in the immediate cultivation of the ground that would lead us to expect such a crop. This same land produced 70 bushels of oats per acre last year, and was sown to wheat without manure of any kind. In a few days Mr. H. will plow up the stubble and sow it to turnips. This is his common practice. He can raise turnips in this way for two cents per bushel. The land is very clean, and the turnips require very little hoeing.

Mr. H. is turning his attention more and more every year to raising vegetable seeds. We conclude he finds it profitable. He has now growing several acres of beans, black seed onions, seed beets, sweet corn, squashes, mangel wurzel, lettuce, carrots, parsnips, &c. The beans are planted in the orchard, in drills three and a half feet apart, and one seed in about two inches; marks the land out with a plow, and drops the seed in the furrow, and then covers it with a hoe. It requires about a bushel of seed to the acre. He has usually planted them in hills, but is convinced that he gets a heavier crop by planting in drills. He has three varieties, the White Mountain, one of the largest and best in market, and an excellent bearer; the Early Rachel, planted on the 4th of June, and affording, at the time of our visit, a large quantity of string beans; and the Dwarf Horticulturalist, planted on the 6th of June, and as early as the Early Rachel, and very heavily seeded. Growing among the peach trees, was some very fine Vegetable Marrow Squash, "the best winter squash there is raised."

Of sweet corn, Mr. H. had Stowell's Evergreen—which he likes well—and the Early and Late Sweet Corn. The hills were six feet apart, and between each hill there was planted a hill of Golden Crook-

neck Squashes—four plants of corn and four of squashes in each hill. In this way he gets good crops of both. The squashes were very fine.

"This piece of lettuce seed is splendid."

"Yes; I threshed out my lettuce seed here on sheets last fall, and the seed that was shed grew, and the plants stood out all winter, and this spring I thinned them out and let them go to seed. I never had better seed."

"Is it a profitable crop?"

"It is so profitable that I don't want to tell you how much I shall get from this small piece, for fear you would publish it, and others should rush into the business and overstock the market!"

"Which is the best variety?"

"The Frankford. The Early Curl, Siberian and Drumhead are also good. I grow them in different parts of the farm in order to keep them distinct."

The seed crops of White Sugar Beet, Mangel Wurzel, Long Blood, and Bassano, are very heavy—better than last year. The Bassano is the earliest variety; has raised 1,000 lbs. of seed per acre; 700 lbs. is a good average yield.

"What is the reason this White Sugar Beet seed is so heavy here?"

"I drew on to the land last fall several loads of swamp muck; and you can see a great improvement in the crop where the muck was put. I do not know, however, whether it will pay to use it."

Potatoes are excellent. Mr. H. prefers the White Mexican. Has been in the habit of planting in hills three feet apart, but thinks if the land is in good condition, that heavier crops can be raised by planting in drills. He marks out the land with a plow, and drops the sets in the furrow from twelve to sixteen inches apart. Harrows the land before the plants makes their appearance, and in this way saves much labor in hoeing. The crop is very clean.

The great secret of Mr. HAYWARD's success is thorough cultivation. Everything is planted in drills, and the cultivator is kept constantly going. He expressed his belief that, by the frequent use of the cultivator and hoe, he could get good crops, even should there be no rain all summer! However this may be, there can be no doubt that, except on light, sandy land, deep tillage and frequent cultivation of the soil will greatly lessen the injurious effect of drouth.

Mr. H. keeps no sheep. His proximity to the city renders him liable to frequent attacks from sheep-killing dogs. He has some excellent Suffolk hogs, the parent stock being obtained from L. G. MORRIS. A cross of these with common sows forms a very superior breed. Owing to the disease already alluded to in the *Genesee Farmer*, Mr. H. lost two litters this spring; but he has now some twenty-five little pigs—perfect beauties—from the same two sows. His cows are principally grade Short Horns and Devons, and are excellent milkers.

FORKED WHEAT.—The *California Farmer* says: "Mr. Brandon, whose ranch is some three miles from the Cosumnes, has shown to the editor of the *Coloma Argus* a sample of a twenty acre field of wheat, now growing on his place, which is a trifle ahead of any cereal we have ever heard of before. The stalks stand from seven to eight feet on the ground, and each head sends out from two to four branches, all well filled with the milky grain. If no accident prevents it, there must be a splendid crop."

TO CLEAN CHESS OUT OF SEED WHEAT.

ON our late visit to the farm of Mr. JOHN JOHNSTON, near Geneva, N. Y., he informed us that some years ago he was a believer in, and an earnest advocate of, the theory that wheat would turn to chess. In some of the early volumes of the *Genesee Farmer* he cited several facts which had come under his observation, and which appeared to prove that, in spite of botanists and vegetable physiologists, wheat *would* turn to chess. This idea was combated by several correspondents of the *Farmer*; and, as Mr. J. confessed to us, he had to acknowledge to himself that he was worsted in this "paper war." Fully persuaded that he had the best side of the argument, and thinking that his opponents had the advantage simply because better skilled in the use of the pen, he resolved to prove beyond all controversy, by ocular and practical demonstration, that wheat would turn to chess.

He took three bushels of wheat (we believe this was the quantity, but it is immaterial) and looked it all over, grain by grain, picking out all the chess. When he had finished, he was satisfied that there was not a grain of chess in the whole three bushels. Now, then, thought he, I shall have them; if I get chess from this wheat it won't do for them to tell me that I sowed chess with the wheat; and he had no doubt that, as usual, he should have "lots of chess." The wheat was sown; and the result was, that while there was an abundance of chess in the wheat cleaned in the ordinary way, *there was not a single ear of chess on the land sown with the clear wheat.* This experiment, which Mr. J. made in order to convince the theorists that wheat would turn to chess, had the effect of convincing him that he was in error, and that the great cause of chess in wheat must be ascribed to sowing chess with the seed wheat.

Once satisfied that wheat would not turn to chess, Mr. J. resolved to *sow* no more of it; and he hit upon a plan of cleaning seed wheat which took out every grain of chess. The method is simply this: After the wheat has been cleaned in the ordinary way, by running it through a fanning mill, *take the riddles out of the fanning mill, leaving the screen in*; take off the rod that shakes the riddles and screens; pour the wheat slowly into the hopper with a basket or a half bushel; turn the mill a little quicker than for ordinary cleaning, *and every grain of chess will be blown out*, unless where three seeds stick together, which is sometimes the case with the top seeds. Two men will clean from ten to fifteen bushels per hour. If the wheat is light, say weighing from fifty to fifty-five pounds per bushel, considerable wheat will be blown away with the chess; but where good Genesee wheat is raised, as in this section, weighing from sixty to sixty-four pounds per bushel, little or no wheat will be blown out. In some cases it is better to raise the hind end of the fanning mill about two inches from the floor; more wind can be given and not blow away the wheat.

Since Mr. JOHNSTON adopted this method of cleaning his seed wheat, he has not raised a "wine glass full of chess in more than twenty years."

We may remark that the same practice is very generally adopted in England, not only in cleaning seed wheat, but in cleaning all their grain for market, more especially barley.

There is a high duty on the process of converting

barley into malt (about seventy-five cents per bushel); and the malsters naturally do not wish to pay duty on barley of an inferior quality, or on light grains that will not germinate, or, consequently, make malt. On this account, farmers are particularly careful to clean their barley before sending it to market. It is first run through the fanning mill to separate the chaff from it; then through a machine to break off the "pales," or beards; and then again through a fanning mill with a finer set of riddles and screen. After this, the riddles are taken out, and the barley is run through as in the process above described. Many farmers have a machine on purpose for this work, and consider it indispensable. It is called a "Heaving Machine." A good sample of English barley, when cleaned in this way, will weigh fifty-six pounds per bushel. On Mr. LAWES' farm, at Rothamsted, we have known his experimental barley to weigh fifty-eight pounds per bushel. This great weight per bushel, however, must not be attributed to the process of cleaning alone. It is more probably due to climate, inasmuch as the wheat, no matter how well it is cleaned, is not so heavy as Genesee wheat.

Mr. JOHNSTON thinks every agricultural paper in the country should give this process of cleaning wheat, and urge their readers to adopt it. If any wheat-grower will once try it, he will never again sow wheat without running it through a fanning mill in the way described.

ENGLISH TENANT-FARMERS' PLUCK.

SOME eight years ago the Duke of Northumberland induced a Mr. WETHERELL to take one of his farms, under the promise that he would destroy the game, erect new farm buildings, and allow him to adopt such a system of rotation and general farm management as he pleased. Under these verbal conditions Mr. W. took the farm, which was at the time in a wretched condition. He made great improvements on the farm, so much so that last August he received a prize of £30 for the best managed farm on the Stanwick estate.

During the past winter the Duke, or his agent, took it into his head to impose new conditions on all the tenants on the estate. These conditions Mr. WETHERELL thought oppressive and unjust, and refused to sign them, and was thereupon ordered to "go about his business." He has had to leave the farm, and has received no compensation for the unexhausted capital left in the land.

The English-tenant farmers have taken up the matter, and to show their sympathy with Mr. WETHERELL, and their disapproval of the conduct of the Duke, have recently held a public meeting at Richmond, and presented Mr. WETHERELL a handsome silver vase and a purse of 400 sovereigns. We give a few extracts from the speeches made on the occasion, to show that English tenant-farmers will not be trodden upon with impunity.

"The Chairman felt proud of having been one of the committee elected to show the public estimation for Mr. WETHERELL, and also to show the Duke of Northumberland that the conditions offered to the tenants of the Stanwick estate are not to be tolerated by the tenant-farmers of this country (cheers). We were told a few years ago by a noble lord, then holding a high position in the cabinet, that farmers' heads

were as heavy as the clods they cultivated; and certainly, had these conditions been accepted, we should have justly deserved the compliment the noble lord was pleased to pay us (hear, hear). Probably, half a century ago, the despotic manner in which the Duke and his advisers have attempted to treat tenant-farmers might have been allowed to pass unnoticed; but I am glad to say that we live in an age when our brethren will not be allowed to be crushed by arbitrary restrictions without a free-speaking of our minds on the subject" (hear).

Mr. BARBER said, "The testimonial before us is the spontaneous offering of nearly 3,000 subscribers, who thereby declare, not alone their approval of Mr. WETHERELL's conduct, but their disapprobation of any agreement which does not give to the tenant-farmer liberty of action as security of capital. Deprive him of his political freedom if you will—exercise your influence to change his religious creed if you will—make his civil and religious existence subservient to your own political views or private aggrandizement, if you will—but, O ye landlords of England, seek not to coerce that spirit of inquiry and improvement which is the lever of the agricultural world. (Applause.) If ye do, then as surely as I stand here this day, the younger and more intelligent tenant-farmers of this country will make themselves a home in another and happier clime, where their intelligence will be respected, and their industry rewarded."

EARTH OR CLAY AS AN ABSORBENT—QUERY.—Every one knows that by throwing a little earth over a dead and putrid animal, the offensive odor which arises from it is no longer perceived, or, at any rate, cannot be perceived by the sense of smell for a long time. The reason of it is this—the earth absorbs the gases which arise, and continues to do it until fully saturated with it. If any considerable quantity is used, it will absorb all that arises from a large animal during the course of its decomposition. Now, query. Cannot earth or clay be used to absorb the ammonia which passes over when animal matter is distilled, as in the manufacture of bone, or ivory black? If so, it will when thus charged become a good fertilizer, and can be used for that purpose, or any of the crops raised by the farmer and gardener.—*Maine Farmer.*

Earth or clay will absorb a considerable quantity of ammonia, sufficient at least to warrant its use on the farm for the purpose of arresting this most valuable ingredient of manures. But it will not absorb ammonia to such a degree as to convert the soil into a manure that can be made in the city and transported, as guano and superphosphate of lime are, to distant parts of the country. Thus, in the experiments of Prof. WAX, six soils exposed to the fumes of carbonate of ammonia till they would take up no more, were found to have absorbed on an average two per cent. of ammonia. A ton of earth, therefore, would absorb 40 pounds of ammonia, worth somewhat less than five dollars. It cannot be manufactured and delivered on the farm for this sum.

CULTIVATION OF CORN IN NICARAGUA.—Corn is sown broadcast in Nicaragua. The trash and underbrush is first burnt off the land entirely. The seed is then sown, and the rains do the rest. The crop is not bad considering the cultivation. The ear is not so large as the best in this country, but it is filled with a fine, large, flinty grain.

THE CAROB-BEAN.

THE Algaroba Bean, or Carob-tree (*Ceratonia siliqua*) is attracting attention in England as a food for cattle. It is a remarkable plant, growing abundantly in the south of Europe, and, indeed, in all the islands of the Mediterranean, and the countries skirting the shores of that sea. In Malta, it is said to be the only tree indigenous to the soil, its dark green foliage relieving the eye from the irksome monotony of the white stone inclosures which everywhere abound, and appears originally to have given the island its name. In all the countries where it grows wild, its fruit is eaten by the inhabitants. In a dried state, it is also largely consumed by horses. In this state, full-sized pods measure from four to five inches in length, about one inch in breadth, and three-eighths of an inch in thickness. When ripe, the pods are round, plump, and contain a sweet, nutritious pulp.

In medicine, its pulp, like that of the tamarind, is slightly purgative. In the form of a decoction it is also exhibited as a pectoral in asthmatic complaints and coughs.

"We have seen," says Prof. WAY, "no chemical analysis of the carob-bean, but it is said to contain about 'fifty per cent. of sugar and gum, besides a large proportion of oily matter.' This would point to its being used at most advantage for mixing with other food, so as 'to season it,' giving it a flavor, and inducing stock to eat more largely. In the generality of cases it would seem better adapted as food for milch cows than fattening stock, especially those disposed to run to fat, where sour food does not agree with their stomachs. A little may also be profitably mixed with the dry food of horses, in its pounded state; but from its purgative nature it is probably not so suitable for sheep, although they are extremely fond of it. In all these cases, however, experiment must be left to settle its value, whether as food for horses, cattle, sheep or pigs."

We have to thank the Great Exhibition at Paris for bringing the Carob-bean into fresh notice, it being there largely exhibited by Spain and several other southern States of Europe, from which a plentiful supply could no doubt be had. Where grown, the dried pods cost about \$14 per ton, and in London sell at about \$41.

The carob-beans were used as food for swine in the time of COLUMELLA, and the "husks which the swine did eat," referred to in the parable of the Prodigal Son, are supposed to have been the fruit of the carob-tree, or carob-beans. Pliny tells us it grew abundantly in Syria, in his time, and doubtless it will be found equally plentiful throughout the whole of Asia Minor.

CHINESE HEMP.—The editor of the *Valley Farmer*, H. P. BYRAM, of Louisville, Ky., speaks highly of the Chinese hemp, a new variety grown by W. L. VANCE, Esq., of Woodford county, Ky. He visited the farm of Mr. VANCE, just as the hands were engaged in cutting the crop. There were thirty acres in one field. The crop, although the land was much worn and uneven, was very uniform, averaging ten or twelve feet in height, and many of the stalks measured thirteen and a half feet. Two acres of the field were measured off, and the hemp stacked, rotted and dressed separately. The yield was 3,481 pounds, or 1740½ pounds per acre. The fibre is said to be of "extraordinary strength."

AN ENGLISH FARM.

A CORRESPONDENT of the *Mark Lane Express* gives some account of the farm of RICHARD DAWSON, in North Lincolnshire, England, from which we extract a few particulars:

The farm contains 2,700 acres. Thirty-four plowmen, with a suitable number of female servants, are boarded and lodged in the house. One thousand five hundred long-wooled ewes are kept as breeding stock. Mr. D. once kept his clip of wool for three years, and then sold it for £5,981 4s., say *twenty-five thousand dollars!*

About ten thousand dollars are paid each year for artificial manures. For twenty-two years in succession, \$7,500 have been annually expended in the purchase of bones, besides large sums yearly for oil cake.

This land was "a few years back a wilderness." One field of 352 acres was an old rabbit warren, when Mr. DAWSON, Sen., entered upon the farm. "I once counted, says the correspondent of the *Express*, SAMUEL ARMSBY, "1000 ewes in this field, with a lamb to each ewe, making together 2,000 head of sheep stock, with some young cattle and horses." Six hundred acres of turnips, and six hundred acres of clover, are annually grown and consumed on the farm by cattle and sheep, which are allowed oil cake and grain in addition. Mr. ARMSBY well observes: "Mr. Dawson and his father had proved that green crops were the main-stay of all good farming; and that the more meat a poor-plowed-land farmer sent to Smithfield, the more corn (grain) he would be able to sell per acre at Mark Lane." A great and important truth is embodied in this remark, which is as applicable to American as to English farming.

NOVEL SEED PLANTER.—The *Scientific American* states that GEO. A. MEACHAM, of New York city, has invented a seed-planting contrivance which is attached to the heel of one's boot, and is so arranged, that by the act of walking, the grain is dropped and planted in the ground. The seed is contained in a belt worn around the waist. A flexible tube conducts the seed down to the planting apparatus. Farmers may henceforth dispense with their cumbersome planting machinery. To plant their crops they will only need to slip on a pair of these magic boots, and leisurely stalk over the soil. Horses' feet may be supplied with shoes of the same sort, and the animals become thus converted into four-legged, self-moving, seed planters. Verily, the march of improvement is onward!

RAISE MORE TURNIPS.—The *Maine Farmer* is at a loss to conjecture why more turnips are not raised for feeding to cattle and sheep, and well remarks: "In England it is the stock-grower's sheet anchor. We have been told that if England could grow Indian corn, we should hear them say but little about their turnip crops. Perhaps not. But if we can raise Indian corn and turnips, too, we certainly have the advantage of them. We never knew a farmer who had plenty of Indian corn, lose anything by having plenty of flat turnips also. Indian meal and turnips make capital food for stock. The meal forms fatty matter, and the turnips muscular matter and bones; and if your stock have a good supply of such material, they will be large, plump and fat."

TRIP TO WISCONSIN.—BY S. W.

(Continued from Page 208.)

Left the Prairie City at 3 P. M. for Milwaukee, by the Lake Shore Railroad. For several miles north of the suburbs, the prairie sloughs are filled up, and the streets are handsomely graded. The map of the same may be found at some of the numerous land agencies with which Chicago abounds. I could but reflect, as I passed quickly by, that the day was approaching when these so-called city divisions would be sold by the acre; then, but not till then, can we hope to see these grounds occupied and animated by a working people—as all extensive land speculations are a curse to the country whose improvement they never fail to retard, even to the frequent loss of the speculator himself. The same evil is only increased when it is confined to lots in and near the gregarious town. As it is truly said in England, a manufacturing population can only prosper and keep the trade alive under low rents and cheap living. For more than twelve miles north of Chicago, the country along the Lake Shore Railroad is low, wet, quicksand prairie, with a thin covering of that rich mold which is so deep on the prairies of the interior. Thirty-six miles north of Chicago, at Waukegan, the country is sufficiently high and rolling. Here commences that belt of timbered land along the lake, which grows wider as you go north, until at Sheboygan it extends back from the lake to the prairies of Fond du Lac, a distance of near forty miles. All west of this belt is prairie or oak openings. It would seem that the prairies bordering this great lake had been so thoroughly washed in their original formation, that fine sand only was deposited, and that the thin, black surface soil was of subsequent formation. Here at Waukegan is a dark, coarse, sand loam, which becomes richer and richer in organic matter as the land recedes from the lake. The timber here is small white and black oak generally. As the railroad runs under the bluff on which Waukegan is built, we see but little of it. It is a thriving, modern-built city of 5,000 inhabitants. I stopped here to see my kinsfolk, the family of R. D. Dodge, whose fine garden was cut up by the railroad; but it is now re-established on top of the bluff, where his elegant mansion looks out upon the lake from its beautiful surroundings of evergreens and deciduous shade trees, flowering shrubs and clambering vines. Here I found a variety of the indigenous cacti translated from the lake shore. In its improved domestication, it was as ornamental as the Chinese arbor vitæ. As I sat here on the front piazza, looking over the outward piers into the expanded lake, it brought to mind the days of my boyhood, when I so delighted to launch out into old ocean with my little sail boat, or to be swimming in the breakers, where I so early learned to put my hand confidently upon the "ocean's mane." Beautifully as Byron has apostrophized the ocean, I could but feel that the day would come to succeed this our age of bronze, when these great interior oceans also may be blessed with their lake poets, their WORDSWORTHS and their BYRONS. Some of the wise men of Chicago have already secured ambrosial residences here, where they can come out every evening on a special train of cars, and return in the morning before business hours. If there are few ambitious public buildings here, the lots are spacious, and every home has its surroundings of trees

and garden and grass plot, giving to the place a rural aspect, which the worshipper of the almighty dollar cannot well appreciate or enjoy.

Fourteen miles farther we come to the beautiful and truly picturesque lake town of Kenosha, the first city in Wisconsin, containing about 3,500 inhabitants; then, ten miles farther, to the city of Racine, on the Root river, which forms a small port for vessels; but the main landing at these three towns is at the long piers built on piles far out into the lake. Racine is a beautiful city of about 8,000 inhabitants. In addition to her inner harbor, she has her Western Railroad, already completed, with daily trains running as far west as . . . After leaving Racine, the heavier, clayey soil predominates. The timber, a mixture of all sorts, the greater portion of which is oak, is said to be heavy for this country; but it would be called medium in Western New York; but it is said that after going nearly as far north as Sheboygan, the timber, oak as well as maple, beech, &c., is of monstrous size, except in those towns which border the lake shore; and what gives this heavy-timbered land the advantage over that in Western New York is that the roots of these monstrous trees are not at all in the way of the plow, but run directly down into the black mold, which is several feet deep; girdling the trees only answers for clearing. Along the line of this new Lake Shore Railroad, there is yet to be seen but few farm-houses or out-buildings, more woods than clearings or prairies after passing Racine, and very little farming worthy of especial notice; but it is said that the improvements are back on the main road. The red clover here, as in Michigan, was in full blossom, but much shorter and thinner on the ground than with us. The spring wheat, if early sown, looked well; but where the winter wheat had been winter-killed, and the ground re-plowed and sown to spring wheat, it was short and backward. Neither pasture nor meadow would compare favorably with Western New York; but the season was unusually dry. Twenty-five miles from Racine, an oaken forest and clay soil rich in organic matter the whole distance, we come to Milwaukee, the great commercial metropolis of Wisconsin, and the beau ideal of a modern town. The harbor is formed by the union of two rivers a mile and a half from their debouchure into the lake. The larger river, the Milwaukee, is navigable one and a half miles farther up for the largest lake craft. A straight cut from the river through the beach of the lake is now making, and piers of great length, to be filled with stone, as a defence for the channel, are now in progress. This cut will save the present long detour to the mouth of the river. Three long piers extend from the beach of the lake far out into deep water. Here the passing steamers and propellers stop daily to take off and land freight and passengers, when wind and weather will permit. All along the Milwaukee, below its junction with the Menominee, are extensive elevators and warehouses, and the Lake Shore Railroad is near by on the south side. The two western railroads run for a long distance on the bank of the Menominee, to its junction. Just above this junction they both load and unload their freight trains, either into warehouses, or directly to and from the lake vessels, which come up this branch. Large quantities of pine lumber is here continually landing from the vessels, and going directly into the railroad cars, bound for the now fast settling interior. Here are the late

improved swing or pivot bridges across the two rivers, admitting two vessels to pass at the same time on either side. Just above the first bridge, below the junction, commence the business stores on East Water street. Extensive, tall, deep brick blocks, running from street to river, on the east side now stud its banks, while the primitive wooden structures are fast disappearing, to make way for more brick and mortar. Here I went through one of the most miscellaneous and extensive iron and hardware establishments perhaps yet known in the West. Its capacious lower story was filled from end to end with iron of every size, not in heaps, but, as the geologists say, *in situ*. The longest bars, some of which were round and four inches in diameter, stood all on end, thickly studding the walls from street to river. The shelf goods were in the second story, and more of the kind I never before saw on one floor. On the next (and there was yet another story) I saw a pile of shovels which, had it been conical, would have exceeded a small haystack in dimensions. This Nazro block was a structure worthy of 1855. It has a large sky-light in the center, and a railroad in the basement, with its iron car, which runs out on the wharf to the propellers' gangway, where it is loaded.

Left Milwaukee June 15th, in the 8 A. M. train, on the La Crosse Railroad, for Fond du Lac, at the head of Lake Winnebago. For a mile, up to the mill dam, the road is near the Milwaukee river, when it bears off to the north-west, through a rotting limestone region, small black and white oak trees predominating, with now and then a burr oak (*quercus obtusiloba* of Mx.). Spring wheat looked well. The occasional patches of winter rye, told of the German settler fresh from father land. The few patches of corn to be seen from this new railroad, were, as every where else, very backward for the season; but July and August makes the corn crop. There are yet few buildings or improvements to be seen at these new stations along the road; but, thanks to the new country, the engineer went on a straight line, making no clumsy detours to accommodate old villages, or to avoid deep cutting through the rolling surface or short hills which here abound. Limestone boulders, and gravel nearly white, with a sprinkling of larger quartz and granite boulders, show the formation and constituents of the soil. Although vegetable mold was thin on the surface, the crops of growing grain told that nitrogen was in full force in the mineral matter; and we have the best of experimental authority, to show that a mineral soil may contain a sufficiency of organic matter for large continued crops, long after all traces of vegetable remains have been exhausted by cropping.

We had four car loads of what I took to be indigenous passengers from Milwaukee; but I soon found that we had a goodly German representation, male and female, in Yankee costume. Most of them left us at the first stations and at Sleisingers. These Germans soon become good farmers, *au fait* to the Yankee improvements, and if not quite as enterprising, their practical economy of life and physical comforts cannot be beat. A German rarely infringes the Quaker discipline by "going beyond his ability to manage in worldly matters." Debt and slavery are to him synonyms, and he loves his liberty as he does his coffee, his lager beer and his pipe. Near Horicon branches off another railroad to Wampum, now being extended to Berlin, and from thence to Stevens' point,

on the Wisconsin. Here, also, fifty-four miles from Milwaukee, is the junction of the La Crosse with the Fond du Lac Railroad. I now left on this road for Fond du Lac, which lies thirty miles east of north from this point. We now pass through a gently rolling prairie country, with timber sufficient for farm purposes. Vegetable matter was deeper in the cuttings; and lime boulders gave way to calcareous gravel and a black prairie soil, composed of finely comminuted mineral substances, and some muck. Here were the largest corn fields I had yet seen, and such prairie grass as here covered the surface cannot be beat with us without the aid of liquid manure.— Strange as it may seem, this wild, broad-leaf prairie grass, when fed by cattle, is succeeded by a monster growth of June grass (*agrostis vulgaris*) with white clover.

Fond du Lac is one of those fast-growing towns, where business is of more account than fine buildings. Here are timber yards on a large scale; and a large country trade now centers here. The best of spring water is obtained here by boring artesian wells, only seventy feet deep. Steamers run daily from this place to Green Bay, touching at Oshkosh, and going through locks at the outlet of the lake. Oshkosh is now a very growing place, with a large array of steam saw mills, and a monstrous trade in pine lumber, it being situated at the mouth of the Fox and Wolf rivers, which communicate both with the best farming and the best pine land country in Wisconsin. The railroad to Fond du Lac is now being extended along the west bank of the lake to Oshkosh. I learned here at Fond du Lac that the best and heaviest timbered land, oak, maple, &c., is about midway between this place and Sheboygan, on Lake Michigan; that the mucky soil is deep and rich as the forest is tall and heavy; and that the roots of the trees descend so directly into the earth, that the plow may run close to the trees; hence, by girdling the trees, crops may be put in before they are cut down.

It was astonishing to see, at the large hotels here, such a host of travelers both coming from and going to the hyperborean north. We left here in the morning, with two car loads of passengers, and two car loads of pine lumber. At the junction on the La Crosse road were three passenger cars, already two-thirds filled with passengers from the west and north-west. Although many of our passengers went west, the animated stream east to Milwaukee did not diminish. This La Crosse Railroad is now in running order over sixty miles, with a branch to Waupun and the Fond du Lac Road as feeders. It is now nearly completed to Portage, on the Wisconsin, and is in progress all the way to the Mississippi at La Crosse. It is to be a great trunk with many branches, from the all fertile north and west, which one day is to contribute, more than any other road, both to the internal and export trade of Milwaukee.

Left Milwaukee on the 24th of June, in the Lake Shore morning train, for Chicago. Although a steamer had just left with passengers for the same place, yet we had five cars so well filled that at Racine there were not seats enough for all. Many were from Green Bay, Oshkosh, Fond du Lac, Portage City, Madison, &c. &c. At the Chicago depot the omnibuses could not contain all who had tickets; hence many carriages now gained a fare. However, I felt it to be a Christian duty to return good for evil, and take the Southern train. The females in

my charge over-ruled; and we took the Michigan Central, after a hurried dinner at that great caravansary, the Tremont House. Left the Magical City of the Lakes, with its side-walks encumbered with bricks and mortar, at 4 P. M. At night-fall, in a close, hot evening, we were past the scrub oak and pine region, into the dense forest of slender, deciduous trees, between Terre Coupie and Niles. At Niles we got some cups of tea, in which the tonic properties were so far extinct, that it would have served well to aid an emetic. As the night grew cool we slept well, reaching Detroit at 5 A. M. While crossing the river we partook of a *comme ça* breakfast. On the Canada side the cars were nearly filled, with one exception, which was empty and locked. Our ladies, like all of mother Eve's sex, would see the inside of that car. I went to the tall conductor in uniform. He said that car was *tabooed* until the others were full. Divining his meaning, I said that the woman at the door was as much of a lady as a nobleman's wife, and that her being a little fast was not her fault but her misfortune, and to be attributed to her last five years in the fast west. He smiled, and started immediately to unlock the door. After we were seated, it came to me, but not before, that our car was kept for the *elite* after the unwashed are provided for.

There are beautiful farms near Detroit, in Canada; but as you progress along the shores of Lake St. Clair, the country is low and wet. In some places are marshes covered with aquatic grass for miles in extent; but a fine country opens after you reach the Grand River at London. Between this place and Hamilton I saw the best improved wheat farms I had before seen west of the State of New York. I also noticed an improvement at the railroad cuttings. The deep, calcareous clay banks were stone drained, so as to prevent their washing; and clover was making a good stand on the sloping banks at an angle of more than 60°.

We saw nothing of Hamilton from the railroad, as it was hidden by an intervening hill. At St. Catherine's, on the Welland Canal, were many fore and aft vessels. We passed the truly great suspension bridge without any sensible vibration. Jaded and tired, we were hardly sorry that we had missed one train when we entered the neat Central House. Here ever blessed water relieved us from dust and perspiration; then such a supper, so neat, so well fitted to the wants and whims of the creature; the landlady, in spotless white, at the head of her serving maids; nothing was lacking, all was anticipated. Comparisons are invidious; but I take it no hotel is well kept when the host and his lady are invisible. As their presence sharpens the dull faces of the servants, so it warms and gives flavor to the tea, adds aroma and takes off the burned pea taste from the coffee, and puts the nub on everything, as it did here, at the Suspension Bridge Central House. After tea, we took a stroll to the engulfed river, where we had a view, more bold than picturesque, of the whirlpool below, the little steamer at her wharf above, and the great falls beyond. At 8½ P. M. we left for Buffalo. A commissioner took our checks, and for twenty-five cents each, agreed to set us down, bag and baggage, at our next of kin in Buffalo. When we arrived it rained hard, and the ever zealous mass filled the two or three omnibuses; but our man, true to his trust, got us a carriage. He said it was a German festival,

and that they had appropriated all the 'busses. We received in the carriage with us a quiet English lady from Canada, who had not the Yankee impetuosity to mount the last 'bus. I admired her calm, quiet self-possession, as it contrasted funnily with the somewhat *distract*, if not fidgetty, disappointment in my charge. But all's well that ends well. Our kin were at the door to receive us at 10 P. M. S. W.—*Buffalo, June 27.*

THE WHEAT CROP IN SENECA COUNTY.

EDITORS OF THE GENESEE FARMER.—As I have made a commencement in wheat harvest, I, according to promise, give you what information I can respecting the crop, and am sorry to say that the Soules wheat is very much injured by the midge—more so on my farm than I have ever seen before; and I make no doubt it is the same everywhere. Owing to the rains last year in harvest, labor was kept back at least two weeks, and, of course, wheat was later in being sown than any time since we had midge. This, I think, is the cause why the midge is so destructive this season.

The Mediterranean wheat around here seems to be good; but I am told that on black, damp soils, it is very much hurt by midge. We had a severe thunder storm last Saturday, with tremendous wind and rain, which prostrated the heavy wheat very much. We got in our clover hay in fine order. As for timothy, there was little to get in. It may be called a total failure hereabouts; scarcely any headed out. Farmers who can save any seed should do it. Our oats, barley, and corn, have done finely since the hot weather set in; and we have had enough rain, and now more than we want. Wheat has ripened remarkable uneven here. Part of a field is ripe, and part as green as it ever was—the green nearly all taken by the midge.

What can be the reason that the timothy did not head out? It was good in the early part of the season, and bid fair for a large crop; but when six to eight inches high, it stopped getting any taller, or showing heads, and so remains unless pastured off.

Can you inform us if the midge is doing damage in the Western States? Yours, truly,

JOHN JOHNSTON.

P. S.—Very few pity the farmer when he meets with losses; but if any city had lost half as much by fire or flood as the farmers in Western New York lost last harvest by rain, all the cities in the Union would have vied with each other in sympathizing and subscribing to their relief; but we farmers don't even get their sympathy. Let any man look at our prostrate wheat, and half destroyed by midge, and I cannot see how they can rejoice.

J. J.

LIME ON CLOVER.—One of our agricultural exchanges contains a communication from a farmer, who recommends sprinkling clover that has been cut and partially dried with lime slaked to powder, when it is put into the barn.

The writer says that he has repeatedly tried it, and the result is the clover comes out in the winter in good condition, and that cattle eat it readily, and thrive well upon it. It is a mode new to us, but it may be useful to know it. The lime must act as an absorbent, and take up the superabundant moisture of the hay, and thus prevent its heating and fermentation.—*Maine Farmer.*

CONDITION AND PROFITS OF AGRICULTURE IN CONNECTICUT.

Most of our farmers begin with small means. The ancestral farm, if subdivided, would be too small to meet their views. To purchase one a debt is incurred, and though this is soon cancelled by diligence and economy, yet that liberal expenditure in improvements which would render farming in the highest degree pleasant and profitable, is prevented. The education of children and their establishment there employs the surplus funds. Thus great wealth is rarely obtained, but a comfortable support is secured.

How is this done on a farm of one hundred and fifty acres, which is a fair average for this section? A good farm, well located, with tolerable building, will cost about forty dollars per acre. One-third may be in wood, of different ages, and will furnish fuel, fencing, and building timber, and a surplus for sale. The remaining hundred acres will furnish a few small fields for the plow, and keep about thirty head of cattle. These may be fifteen cows, one pair of oxen, a horse, and about a dozen head of young cattle. Thirty acres meadow with cornstalks will winter them. The produce of each cow will be about two hundred fifty pounds of cheese, at ten cents; fifty pounds of butter, at twenty cents; and a calf worth five dollars, making forty dollars as the income from each cow. As prices and seasons vary, we will take thirty-five dollars as the average, though many entire dairies rise much above the estimate. The growth of the young cattle will cover all losses on stock from age, accident, or disease, and furnish a pair of oxen or steers annually for sale, worth at least \$130, besides beef for the family and some surplus, which we will estimate at fifty dollars. The pigs and pork sold, besides home supply, may be set down at one hundred dollars. Another hundred may be added as the amount of poultry, fruit, potatoes or turnips sold, as these items are very variable, and there are but few farms where some of them are not made available. Small fields, of a few acres each, will be devoted to corn, oats, rye, and buckwheat, and variable amounts will be disposed of, which we will also put at one hundred dollars. Grass and clover seed, if raised, hay sold, wood and timber, will add, perhaps fifty dollars. Work done off the farm will pay the shoemaker, tailor, and blacksmith, and purchase new tools as needed.

Now for the expenses. We would set apart two hundred dollars to pay the store bills of a moderate-sized family; also, to purchase salt for the dairy, plaster, and grass-seed, when purchased. A hired man for eight months will cost one hundred and twenty dollars, and a boy for the year, his clothes, perhaps twenty-five more. And a girl for the year (though her help is too often dispensed with), sixty dollars. Taxes and society expenses fifty dollars. Interest on \$7,000 investment is \$420.

The account will then stand thus:

Cr.		Dr.	
Dairy	\$525	Store bills	\$200
Oxen and beef	180	Hired help	205
Pork	100	Taxes	50
Poultry and fruit	100	Interest	420
Grain	100		
Wood, &c.	50		\$875
	\$1,055		
	875		
	<hr/> \$180		

Extra expenses, such as new buildings, or repairs, traveling expenses, and education of children, unless other means exist to meet these, will deduct from these profits. Permanent improvements, such as drains and heavy walls, must stand on the credit side. Also, the

farmer gets his rent, fuel, and almost entire provision for his family from his farm. By our schedule, he receives full interest on his capital, the support of his family, and one hundred and eighty dollars. If he has interest to pay, unless his family is such that he can dispense with some of the hired labor, he may find it difficult to make both ends meet. But the fact that many hard working men do run in debt for farms, and pay for them, and in middle life find themselves the possessors of good homesteads, prepared to educate and establish their children, is proof that farming is reasonably profitable. A more pleasant position would surely be one free from debt, with a surplus fund from which to draw for extra expenses; and we should advise to buy less land and cultivate it more highly. We consider our farmer as an improving one and blessed with health, his surplus receipts will not lie idle. Judiciously invested in improvements they will pay more than six percent, and add to the net income of the farm. The fact that many with no extra advantages in the market, but in the common routine of farming, do more than we have estimated, is settled. Others by supplying the demand for some kind of fancy stock, or meeting a very favourable market for their produce, acquire sudden gains, and feel some of the excitements of those engaged in trade, but simply legitimate farming supports well those who practice it well.

True, close economy is aimed at in everything, and the utmost care taken that no loss shall accrue, except in one department. There is a neglect of the manure heap, which has been truly called the "farmer's mine," and because its most subtle and valuable elements are invisible, they are often allowed to escape.

With more knowledge directing a better practice in this particular, we confidently predict that we shall no longer have to import butter and grain into Connecticut. From facts like these, with a system of agriculture now but imperfectly developed, may not the young farmers of Connecticut feel assured that when more science shall be combined with his labors, with the consequently improved condition of his homestead, which such means will naturally produce, that he has before him every encouragement to engage in his honorable pursuit, with a manly fortitude, and an unwavering confidence of success, and of obtaining the independence and happiness for which he justly aspires?—*Homestead.*

WHITE DAISIES AND CANADA THISTLES.—I perceive the white daisies are making sad inroads on our meadows in this vicinity, and as I am deeply interested, I would like to learn the most certain means of extirpating them. I have, this season, for the first time, gone through my meadows and pulled up many, yet I see more of them than I wish. I would ask the simple question, whether they come from the seed annually, or whether the roots remain through the winter for successive years. They are a very unprofitable plant, as they will crowd the grasses entirely out, and no kind of animal that I have ever noticed eat them, even when well cured and housed.

Canada thistles are another pest, but as so much has been written and spoken about them of late years, I will say in short, that to mow them when in full bloom, has been, with me, the most successful means of destroying them, though not to my entire satisfaction. D.—*Gates.*

BUCKWHEAT FOR FODDER.—The *Maine Farmer* has found, that when buckwheat is cut and cured as soon as the kernel is filled, horses like it as well as they do clover hay, and eat the whole equally as well as they do that fodder.

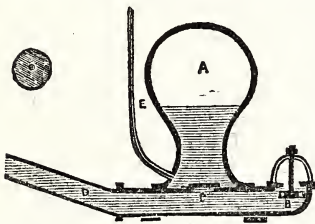
HYDRAULIC RAMS.

EDS. GENESEE FARMER:—Do you know anything about the Hydraulic Ram—its principles of construction and action; and whether it answers the expectations of those who have used them. I have a stream about one hundred rods from my house and farm buildings, and I have been told that by means of a hydraulic ram the water would force itself up into the barn yard—some fifty feet higher than the stream. This seems to me almost impossible—but in this age of steam and telegraph, it will hardly do to say anything is impossible—so I thought I would write to you and find out the truth of the matter. JAMES HARRISON—Huron District, C. W.

At first sight it seems "impossible" that water should "force itself up" to a higher point, but a little examination will satisfy the most skeptical that the thing can be done. In fact it has been done for thousands of years. The Hydraulic Ram is not a new invention. It does not belong to this boasting "nineteenth century,"—this "age of steam and telegraph;" it was known to the ancient Romans and was more generally used for raising water in the time of Columella, than it is in this country at the present day.

Hydraulic Rams are in successful operation in almost every section of the country, and a visit to one of them would do more to convince you of its efficiency than the most elaborate article. Some time ago we were on the farm of Mr. B. B. KIRTLAND, of Greenbush, Rensselaer Co., N. Y., and found his barn yards and house supplied with a constant stream of cold, clear water, by means of a hydraulic ram, from a spring a quarter of a mile distant and sixty feet fall. Mr. K. intends forming a large tank or reservoir in his barn yard, and using the surplus water, together with the draining of the yards and buildings, for irrigating purposes. We believe the city of Buffalo is supplied with water by means of a hydraulic ram laid in the Niagara river near Black Rock.

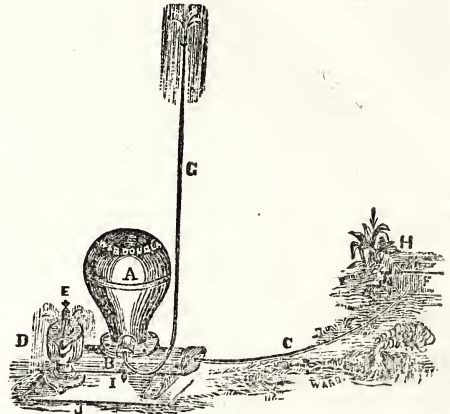
The accompanying engravings will give a good idea of the hydraulic ram. The annexed cut represents a vertical section of the ram.



and from 1 to 2 inches calibre; the pipe E any length desired, and about half inch calibre. Lead pipe is commonly used. The circular figure on the left represents the form of the waste valve. The waste valve is made to vibrate up and down thus: The water passes down the driving pipe D, and escapes at the waste valve B. Now, as any descending body increases in velocity and force every instant of its descent, the column of water descending in the driving pipe, quickly attains sufficient velocity and force to lift the waste valve; but the valve in rising, instantly stops the passage, and the whole momentum of the water strikes against it and seeks relief, which is only found at the valve C, through which a quantity of

water is forced into the air chamber, where it is confined by the closing of the valve. The momentum being thus expended, and the water at rest, the valve B drops by its own gravity, and is ready to start again. After repeated vibrations, the air chamber becomes partly filled with water, compressing within a small space the air, which by its elasticity, reacts upon the water, and forces it up the pipe E to any desired elevation or distance.

The following engraving gives a more distinct view of the ram, in operation.



H, spring or brook. C, drive or supply pipe, from spring to ram. G, pipe conveying water to house, or other point required for use. A, B, D, E, I, the ram. J, the plank or other foundation to which the ram is secured.

The cost must of course depend upon the distance the water is carried. Lead pipe, 1½ inch, can be procured for about 15 cents a foot. The price of a ram of a size fit for general use, is \$25.

GLASS TILES FOR ROOFS.—Glass tiles for roofs will it is thought, come into use for certain purposes, and an improved mode of manufacturing them is proposed, namely, by pouring the glass when in a fluid state, into moulds, and then pressing them like clay tiles; after partially cooling, they are removed to the annealing oven, and when cold the tile is complete. Glass tiles are not new, but those heretofore manufactured have been made by cutting a piece of crown sheet or plate glass to the required shape, then heating and bending it. For many buildings devoted to particular purposes, such as for daguerreotyping, conservatories, and the like, a roofing of glass tiles seems to be the very kind required.

OUR ENJOYMENTS.—MR. RUSKIN, in the new volume of his *Modern Painters*, says: "All real and wholesome enjoyments possible to man have been just as possible to him since first he was made of the earth as they are now, and they are possible to him chiefly in peace. To watch the corn grow and the blossom set, to draw hard breath over plowshare and spade, to read, to think, to love, to hope, to pray—these are the things to make man happy; they have always had the power of doing these—they never will have the power to do more."

ENGLISH HORSE-BEANS.

MESSRS. EDITORS:—In your July number, a correspondent "D.," inquires what kind or kinds of beans the English farmers feed their horses, and whether they have ever been tried in this country, and with what success?

The English horse-bean is quite a different kind from any sort usually cultivated in this country. They grow on an upright, stiff, woody stalk. I have occasionally seen them in gardens, grown under the name of coffee beans. There are at least four different varieties grown in England, differing somewhat in size, color, &c.

The late Mr. WEBSTER, on his return from England, some fifteen years ago, brought with him a large variety of agricultural seeds, for distribution. I received samples of some twenty varieties. Among the lot was one quart each of four varieties of the horse-bean. I had an acre and one-quarter of light, sandy soil plowed, for the purpose of planting beans, one acre of which was planted with a colored garden bean, for Messrs. BRECK, seedsmen, Boston. On the acre I raised eighteen bushels, for which I received \$54, or three dollars per bushel. The quarter of an acre was planted with the horse-beans, in drills, two feet distant. They came up well, and grew finely till the "long, yellow days of July and August," when they wilted badly, and most of the leaves fell off. The crop was of little value. One corner of the piece was a deep, moist soil. Here they did much better. I planted some for one or two years after, but upon the whole, came to the conclusion, that in regions where we can usually raise Indian corn, it is hardly worth while for a farmer to bother either his head or hands about horse-beans. However, if "D.," or any others, wish to try the experiment, for their benefit I will quote from the late Mr. COLMAN'S *European Agriculture*. He said: "The land most suited to beans is a strong, rich loam; and a clay soil is congenial to them. Nearly seventy bushels have been obtained from an acre; sixty is a large crop. Ordinarily, however, they do not exceed thirty bushels. Here they are sown early—in February or early in March, and ripen late. * * * They are usually drilled ten or twelve inches asunder, with the intervals hoed, and sometimes two feet or two and a half feet apart, and then carefully cultivated between the rows. The land, in such case, is commonly highly manured, the manure being rotted barn manure, spread and plowed in; and, being kept as clean from weeds as possible, there is a fine preparation for wheat. Of crops which ripen their seeds, few are less exhausting to the soil than beans. The crop of beans here (in England) is certainly most valuable, in a climate where Indian corn will not grow; but it seems, in all respects, much inferior to that inestimable and useful product, the value of which, in my estimation, and the more I see of foreign husbandry, is continually rising. * * * I tried the cultivation of English horse-beans more than once in the United States; but they were always, in the time of flowering, destroyed by a small, black fly, which they seemed to attract in an extraordinary degree, and which stripped the stems completely of their foliage."

And now, Mr. Editor, perhaps you, or some of your correspondents, can give us a more favorable story respecting the horse bean. If so, just pass it around. LEVI BARTLETT.—*Warner, N. H.*

AN INTERESTING LETTER FROM OHIO.

EDS. GENESEE FARMER:—The weather remains very hot and dry in this vicinity still, so hot that perhaps oats will ripen faster than they should to fill well, although *early* sowed oats are out of danger, and this may reason that early sowing almost always does the best, as they generally get well filled before the dry weather sets in. In this respect, I think *early sowing* worthy the attention of farmers, unless we happen to have a "weeping sky," as we did one year ago.

Many pieces of oats will be ready for the scythe during the coming week; and they are generally good. The present prospect is flattering for more than an average crop on prairie soil. Price ranging from twenty-five to thirty cents per bushel.

The price of corn is slowly rising, which increases the hopes of the farmer, and urges him to a more thorough cultivation of his present crop, which, in most places, looks very well, considering the time of planting, which ranged from the 20th of April to the middle of June; and then, in many instances, the pigeons took much of it out. The "wild pigeon" has almost become the "tame pigeon" now; cherries, berries, and fancy fruits generally, suffered much from these feathered visitors.

The present wheat and rye crops are about all cut, and many of them already secured. There is not as much complaint of the insect as there has been for a few years past. Flour is rising in price, and tends from \$6.00 to \$6.50, and upward for "extra brands," and there is a probability that wheat will rise with it. There is very little selling now, except some "Southern white wheat," and that at private sales mostly.

Clover is all secured nearly, and much of the grass, which is a very good crop the present season. We have had the best "hay weather" during the present haying that we have had for a number of years past; and if it continues the same through harvest, it will be an "excellent time" for securing all kinds of grain.

Potatoes look very well, although some rain would help them much, especially on high, clayey soil.

I have observed no difference, as yet, in my experiments on potatoes, except in the cultivation; those cultivated well during their "younger days," are much the largest in tops. There appears to be no perceptible difference between the planting of "*large and small*" potatoes as to the growth of the tops. Ashes has not made any difference noticeable on potatoes; while upon a quarter of an acre of corn, where a handful was put into the hill at the time of planting, the corn is nearly all tasseled, and the adjoining has just began, and is much the weakest. Here there has been a difference to be seen from the time the corn first peeped forth; it has always presented a rank, green and healthy appearance.

On a piece of oats of about five acres, one-half corn stubble plowed in, and the rest buckwheat stubble plowed in, there is a great difference in the ripening—about five days I should think. What is the cause? The soil appears to be the same. Can it be attributed to the corn stalks? EDWIN WOOLVERTON.—*Milan, Ohio, July 21, 1856.*

THICKNESS OF A MANURE HEAP.—"Experience," says BOUSSINGAULT, "has shown that the thickness of a dung heap ought not to exceed from about four feet and a half to about six feet and a half; it ought certainly never to exceed the latter amount."

AERATION OF THE SOIL.

WE have no objection to the definition of the term *aeration*, in an agricultural sense, which we recently met with in a contemporary journal, viz: a "free exposure of the soil to atmospheric influences." But when that same journal proceeds to assert, unqualifiedly, that "the great object of culture is the aeration of the soil," we cannot so readily assent to the conclusion. If it had been said that this was the paramount object on some *kinds* of soils, the proposition would have presented an entirely different phase. No such discrimination is made, however, and the dogma must be taken as applicable alike to the loosest sands or the most tenacious clays.

Now what farmer who has combined observation with practice, does not know that soils of different character require different treatment. The most thorough working of a *clay* soil, or a "free exposure to atmospheric influences"—such as is effected by the *fallowing* system—is highly beneficial. But would the constant plowing or tilling of a sandy plain be attended with like results? Would such a soil grow richer or poorer by the operation? Suppose the noted "market gardeners" of West Cambridge had a piece of ground which was to lie unoccupied by a crop for one season: would they prefer that it should be plowed eight inches deep every week, or left with no more tillage than was necessary to prevent the growth of weeds?

We have admitted the benefit of the aeration of tenacious soils. If the peculiar constitution of such soils, as compared with sands, is duly considered, the reasons for different practice will be apparent. Clay is a sedimentary deposit, consisting of inorganic and organic elements, their relative proportions varying with different localities. Chemical analysis has shown that in many instances clay is rich in vegetable food, but that it is in an unavailable condition—unavailable to the plant partly from the density of the clay, and partly from the presence of unwholesome acids or compounds. The farmer uses language not inappropriate when he says the soil needs "sweetening." From its compactness, it is also less permeable to heat, and, in common parlance, needs "warming." It contains more or less carbon, which, by "exposure to atmospheric influences," is united with oxygen, producing heat, and a similar combination of oxygen with the acids destroys them. Thus a clay soil is both *sweetened* and *warmed* by tillage, the vegetable food being thereby brought into a condition for the nourishment of living plants.

Again, it has been proved that clays have a strong affinity for nitrogen, or, at least, for nitric acid and ammonia. By exposure to the atmosphere, its power of absorbing whatever of these elements may be brought in contact with it, is increased.

In all these particulars clays differ from sands. Sands are comparatively destitute of plant food, and they have no power to attract it. They are easily penetrated by the atmosphere and rains, and the soluble elements are exhaled or washed out of them. Here you have not a body of latent food which requires atmospheric action to elaborate it; what there is in the soil has in most cases been artificially placed there, and the object is to prevent it from being decomposed faster than it can be taken up by crops. We want to lessen rather than increase, atmospheric action. The constant plowing by which we develop the food of plants that is locked up in tenacious clays, would burn out and dissipate the scanty supply of those elements in sands.

We cannot better illustrate the difference which should be observed in the cultivation of clays and sands, than by quoting the following language, the authorship of which we regret to be unable to give:

"In treating sandy soils, very nice management is required, exactly the reverse of that necessary for clays. In cultivating the latter, our object is to loosen and render as pliable as possible, for which purpose we plow repeatedly, dress with long, half-rotted manure, and burn the surface to ashes. On sands we plow but little, and sow the seed immediately after the plow, so as to receive the benefit of the moisture, which is brought to the surface—repeatedly roll and consolidate by every means in our power, until we so force the particles together as to enable the soil to retain the moisture better."—*Boston Cultivator*.

GATHERING CLOVER SEED.

A correspondent of the *Valley Farmer*, one of our very best agricultural papers, published at Louisville, Ky., gives the following plan for making a cheap and simple machine for gathering clover seed:

"We once made and used for many years, a very simple machine for gathering clover heads, with which a man and horse can go over and gather the seed from double the quantity of land in a day that he can cut over with a scythe; and when the heads only are gathered, they require no other labor, except drying, to prepare them to run through the hulling and cleaning machine. Any tolerable workman can make one of these machines in two days. It is upon the following plan:

"Make an ordinary sled with the sides or runners 14 inches wide, and 6 feet 6 inches long. These may be placed 5 or 6 feet apart, and secured together with two cross pieces only at the back end, leaving the forward part open to the length of 3½ or 4 feet; then a box is made to nearly fill the width between the runners. The box is 4 feet long and 15 inches deep, with the forward end open. To the cross pieces at the bottom of the box, at the forward end, teeth of hard wood are secured so as to project about 12 inches; they should be ¾ of an inch thick and 1 inch wide on top, and made a quarter of an inch narrower or beveling on the under side. These teeth are placed three-sixteenths of an inch apart, so as to form a comb. If the upper sides of the teeth were capped with hoop-iron neatly fitted, it would be better. The box is hung between the sides of the sled upon two gudgeons or pins two inches in diameter, just as a cannon is hung in its carriage.

With two handles four feet long, secured to the box and projecting behind, the box may be moved on the pins so as to raise or lower the teeth to adapt them to clover of any height. A man with a horse can strip the heads from four or five acres of clover in a day with this machine, and collect it in a box."

CAUSE OF THE FAILURE OF WHEAT IN NEW ENGLAND.—The *Homestead*, published at Hartford, Ct., in a series of excellent articles on Connecticut Agriculture, remarks: "Wheat was formerly cultivated with great success, but of late years is rarely sown. The diminution of the forests, allows the winds full scope, and the fields are often deprived of their warm white blanket, and tender plants perish. We must attribute the partial failure of this crop more to this cause than to any exhaustion of the soil."

TO KILL CANADA THISTLES.—An experienced farmer says he has found from experience that a heavy crop of buckwheat, followed by a crop of oats seeded with clover, will almost entirely eradicate the Canada thistle.

PROTECTION TO PRAIRIE FARMS.

WHEN I saw the prairie land for the first time, it struck me very forcibly, and I have often thought of it since, how much more comfortable the inhabitants might be if they would plant hedges or wide belts of trees to screen them from cold winter winds, and also be a protection to their crops, especially fruit. If each owner of one or two hundred acres of land would plant their boundaries or division lines with belts of trees, say from twenty to one hundred feet wide, they would find it to their advantage and comfort.

Besides the protection, the trees would, in a few years, when large enough to thin out, be valuable for firewood or timber. An objector might say, "It would be very expensive to procure and plant such wide belts of trees." To such I would reply, that many kinds, one year old (which is large enough), could be imported very cheap from the English and French nurseries, by the 1,000, such as elms, ash, maples, beech, birch, linden, larch, alder, &c. Agents in New York city would order them on application.

The ground should be plowed a year previous to planting, and well worked through the summer, with or without a crop, as most convenient. The following spring put in plants from three to six feet apart; those which make largest growth, such as elms, &c., plant on the back line, and so on with the different sizes, so as to have the lowest growing kinds inside or front; the last or inside row it would be well to plant with evergreens, say Norway spruce, because it is a faster grower than evergreens generally, and small plants can be obtained cheap.

Osage orange, locust and chestnut being fast growers, would be desirable to mix with the above-named kinds.

Another plan would be to procure seeds of any of the fast-growing kinds of trees, grow them in beds in the garden one year, and then transplant them in the belts and screens. But there would be failures and disappointments, and it might not prove as cheap and satisfactory as to import them.

But the quickest mode of obtaining a screen for protection, would be to procure cuttings of some of the free and strong-growing varieties of the willow, such as *Salix triandra*, *S. Beveridgii*, *S. Purpurea*, etc., which grow from forty to sixty and seventy feet high, and very rapidly, too, in a deep, moist soil, and very suitable, no doubt, to much of the prairie land. This, however, would not be so valuable for general purposes, when grown, as elm, maple, etc., but would make its growth about half the time.

For profit and quick growth combined, there is nothing probably equal to the common yellow locust (*Robinia Pseudacacia*); it will not only make a fine belt for protection in a short time, but for fencing posts and durable timber (especially ship-building) nothing equals it; and it is always commanded a high price; and I think a portion of the western prairies might be planted with it, as a profitable investment. It is said there are two kinds, one durable and the other not; but I know of only one. It is possible, if grown on deep, rich, mucky soils, the timber would be coarse grained, spongy, and not as valuable. CHARLES DOWNING.—*Newbury, N. Y., in the Transactions of the Illinois Agricultural Society.*

FINALITY ON CANADA THISTLES AND WHITE D'AR. A friend informs us on the authority of Willard F. Esq., of Brooklyn, that these nuisances may be destroyed by once mowing, if done during a warm rain. Mr. D. has satisfied himself of this by repeated successful experiments. The principle of its action, no doubt, lies in the decay of the roots consequent upon the filling of the hollow stems with water.—*Homestead.*

SOW TURNIPS.—Farmers, if you have a vacant piece of ground, where worms or pigeons have destroyed the crop first sown, replace it with turnips. You will find them of great benefit to your stock in the coming winter and spring. You need not be afraid to sow them until the 10th of August; and I have had them ripen fit for use when sown later.

The turnip succeeds best in rich, loamy, open soil, while the application of manure may greatly increase the crop, amongst which guano and rape dust, mixed with common salt, are the best; but if the soil is poor, or the season dry, apply farm-yard manure thoroughly mixed with soil.

Of the different varieties, the Swedish turnip is, perhaps, the best for feeding. It contains about eighty per cent. of water, as given by SCHUBLER, and a good proportion of starch, gum and sugar. If you have neglected to plant some carrots for feed, supply their place with turnips. E. WOOLVERTON.—*Milan, Ohio, July 21, 1856.*

REMARKS.—It is too late to sow Swedish turnips or ruta bagas. As our esteemed correspondent says, they are the most nutritious; but they should be sown the first week in July. The common white turnips will do well sown the first week in August. We would second the hint of our correspondent. Eds.

FOOD FOR HORSES.—*Messrs. Editors:*—At the Marquis of Londonderry's collieries the pit and wagon horses are fed as follows:

PIT AND FARM HORSES.	
Hay for each horse, per day,	11 pounds.
Oats and beans,	12 "

Steam Feed.	
Hay,	3 "
Beans,	2 "
Linseed,	1½ "

Total daily allowance,

WAGON HORSES.	
Hay,	12 pounds.
Beans and oats,	14 "

Steam Feed.	
Hay,	3 "
Beans,	3 "
Linseed,	1½ "

Total daily allowance,

The hay is cut into half inch chaff; the oats and beans are crushed; in the evening the steamed food is given. Two bushels of corn (oats and beans,) and 98 pounds of hay are found sufficient for the pit and farm horses weekly; and 2½ bushels of corn (oats and beans,) and 112 pounds of hay for the wagon horses weekly. JOHN PICKERING.—*Circleville, Ohio.*

HAY FOR COWS IN SUMMER.—An observing, intelligent and successful farmer informs us that he is in the practice of feeding his cows with hay in summer, particularly if the season is such as to afford flush pastures. His reason is that a full, rapid, and vigorous growth of grass gives to cattle that feed upon it a desire for something to absorb the excess of the juice of their food. Dry hay they devour greedily, and though in ever so small quantities, evidently with the most beneficial effects. Every farmer must have observed that, in dry seasons, horses, cattle and sheep keep in good condition upon herbage parched and apparently withered, while in wet seasons, in all pastures, though always full, the process of fattening with them was slow. In such cases it is required to give substance to the food. Dry hay to the green, and can be profitably used by it to cattle.—*Newbury Telegraph.*

PROTECT YOUR COWS.—Care should be taken during the warm weather of this month, that the cows should be in pastures with convenient shade, or their constant uneasiness from the teasing of flies hinders their feeding, and their becoming so heated from running, has a very injurious effect on the milk, which is less in quantity, very soon becomes sour after being taken from the cows, and does not yield nearly so much produce; and hence considerable loss arises. When the cows have to be pastured far from the homestead, it is sometimes desirable to milk them in the field; for a drive along a hot road, exposed to the sun, does equal harm to their milk as the racing about the fields exposed to the sun. A vessel is then taken on wheels, drawn by the milkers, or a horse, according to convenience; and home stead is left to stand in a cool spot, and be taken fully, with as little shaking as may be. The cows should get a change of grass at least once a week, to no better pasture. They are found to feed better, and keep more settled, than if left longer in one field. A supply of fresh, good water for them, is indispensable.—*London Gardener's Chronicle.*

HOW TO FEED A ROADSTER IN TRAVELING.—Dr. GAZZO, of Louisiana, gives the *Country Gentleman* his experience with horses upon the road, to this effect:

"I have tried two modes of traveling. I have waited in winter for breakfast, and then rode until night, and have always found myself and horse very much worn down at the end of the day's journey. My usual mode is to start two or three hours after daylight, and travel about five miles an hour until eleven or twelve o'clock, depending in some measure on the distance of the stand or place that I wish to reach. In the winter season we generally rest from one to two hours, and can make our stopping place for the night in good time, averaging forty-five to fifty miles per day. In the summer, I start at daylight, and ride till eleven or twelve, and rest till two or three. My horse is as fresh in the afternoon as in the forenoon, and I can travel from fifty to fifty-five miles a day without much distress to myself or my horse. I give my horse as much food as he will eat during the night, but nothing in the morning in the way of feed, but always as much good water as he will drink. I have traveled as fast and as far, in the same time, as any other physician in America, and I am well satisfied that the latter mode of traveling is greatly preferable to both horse and rider."

GAPES IN CHICKENS.—My experience in raising chickens, teaches me to keep the hen-house clean and regularly swept; to visit the yard and keep that swept out also, for the space of five or six yards around the house, taking care that neither grass nor weeds grow there during the year, and to smoke the hen-house repeatedly during the summer. As soon as my chickens are hatched in the spring of the year, say March, I begin to smoke my young chickens every morning with strong tobacco smoke until they are almost large enough to fry. My mode of smoking is to have hovels large enough for one or two hens and their broods, not more. I have a trap door at one end of each hovel, and always make the smoke close enough to the door just so as not to burn the hovel; then you will have room in the other part of the hovel not to burn the chickens. So treated, they will never have the gapes.

Your obedient servant, ROBERT KENT.

Fluvanna Co., April 2, 1856.—*Southern Planter*.

We can fully endorse the above, from experience, as an effectual remedy. We have seen it tried for several seasons. Sometimes, for experiment, a lot of chickens were left without smoking. In all such cases they have been more or less diseased; but those that were daily smoked, almost uniformly did well.—*Louisville Jour.*

HOW TO CATCH SHEEP.—Never seize them by the wool on the back. It hurts them exceedingly, and in some cases has been known to kill them, particularly in hot weather, when they are large and fat. The best way is to avoid the wool altogether. Accustom yourself to catch them by the hind leg, or, what is still better, by the neck, placing one hand under the jaws, and the other on the neck, just back of the ears. By lifting up the head in this manner, a child may hold almost any sheep, without danger to the animal or himself.

MIXTURE FOR MARKING SHEEP.—This preparation will not injure the value of the wool: To thirty spoonfuls of linseed oil add two ounces of litharge and one ounce of lampblack; unite them by boiling, and mark the sheep therewith, using a common paint brush.

A HORSE WITH THE HEAVES.

I TRIED all sorts of heave powders on my patient with no effect whatever. It is said that in a limestone country this disease is unknown, and lime water was prescribed with no apparent advantage. Some one told me to give the horse ginger, and, strange to tell, I found that a table-spoonful of ginger given to the "General," with his oats, would cure him for the day, in half an hour after he had eaten it; but on giving it daily, the effect soon ceased. It is a jockey's remedy, and will last long enough to swap upon. Finally, I was advised to cut my horse's fodder and give it always wet. I pursued that course carefully, keeping the "General" tied with so short a halter that he could not eat his bedding, giving him chopped hay and meal three times a day, and never more than a bucket of water at a time.

He improved rapidly. I have kept him five years, making him a *factotum*—carriage horse, saddle horse, plow and cart horse—and he bids fair to remain useful for five years to come. Kept in this way, his disease does not lessen his value for speed or labor a single dollar. When the boys grow careless and give him dry hay, he informs me of it in a few days, by the peculiar cough I have mentioned; but sometimes, for six months together, no indication of disease is visible, and he would pass for a sound horse with the most knowing in such matters. There is no doubt that clover hay, probably because of its dust, often induces the heaves. Stable keepers, with us, refuse it altogether for this reason.

Many suppose that the wind of the horse is affected by the heaves, so that fast driving at any time will, as we express it, put him out of breath. With my horse, it is not so.

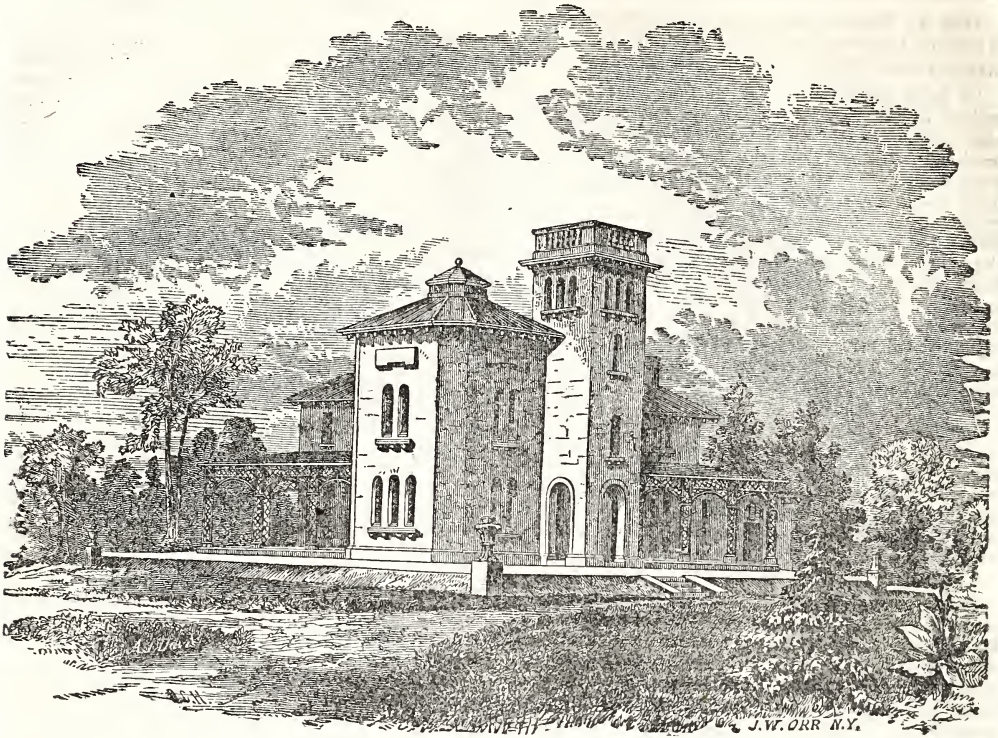
When the "General" was at the worst, rapid driving, when just from the stable, would increase his difficulty, but a mile or two of moderate exercise would dissipate the symptoms entirely. We have, occasionally, what are called *wind-broken* horses, which are nearly worthless for want of wind. They can never be driven rapidly without great distress, and frequently give out entirely by a few miles' driving. This is thought to be a different disease. The "General's" case is, I suppose, a fair example of the *heaves*.

I have no doubt that regular feeding, with chopped and wet fodder, and exclusion of dust from hay fed to other animals in the same stable, would render many horses, now deemed almost worthless, and which manifestly endure great suffering, equally valuable for most purposes with those that are sound.—*Exchange*.

TO PREVENT MICE FROM DESTROYING GRAIN.—A correspondent of the *Country Gentleman*, JOHN F. ADAMS, of Plattsburgh, N. Y., gives a mode of preventing mice from destroying grain in the barn which he has used with success for several years:

"Take the leaves of stinking elder and scatter between each layer of grain; one bushel of leaves will be sufficient to spread on a layer thirty feet square. Perhaps sweet elder leaves would answer as well, but I never tried them. To prove the efficacy of the leaves, I will state, having my barns well filled with grain on both sides of the floor, and leaves on the whole, except perhaps half a load on the scaffold over the floor, which we had pitched, to throw it higher; there were but five or six bushels of grain, wheat and oat, wasted. This was all cut to pieces, while not a grain was lost in all the other parts of the barn. Labor of gathering the leaves and putting them on is but a trifle."

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WINYAH; THE RESIDENCE OF COL. R. LATHERS, NEW ROCHELLE, N. Y.

We have given a number of designs for small farm houses and cottages, and now present our readers with a beautiful specimen of the Americanized Italian style of architecture, so appropriate for the country

Winyah was designed by ALEX. J. DAVIS, Architect, New York. We copy his description of it:

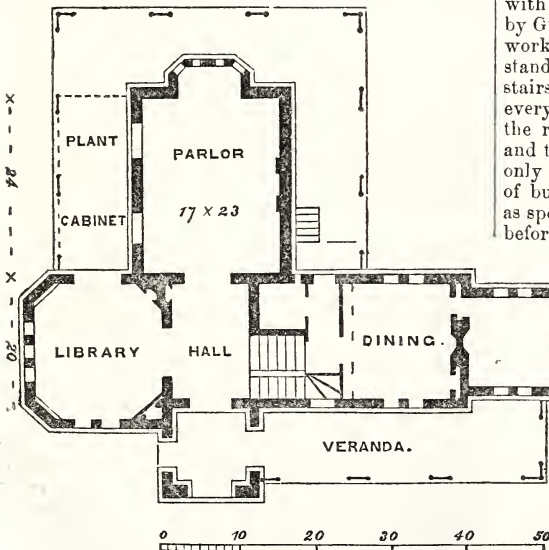
"The execution of work on this house may be noted for its substantial character—brick, in hollow walls, with the New Haven stucco, in imitation of freestone, by GILL, whose cement is proved to be durable in many works at New Haven, of more than twenty years' standing. By deafening the floors, and insulating the stairs, (by brick wall,) this mode of execution renders every species of building safely fire-proof; safely, if the roof timbers be so inclosed by a metal covering, and the floors in contact with cement, that fire could only char without consuming. Had this been the mode of building in New York, (by no means original, but) as specified by me for the last twenty years, and laid before the Common Council of New York in 1834, the

HARPERS and their insurers had not suffered, nor would the great fire have occurred in 1835.

The portal to Winyah is under a turret 12 feet in diameter, 60 feet high, sheltering the hall door, and giving valuable room above, beside commanding one of the most extensive views in Westchester, comprising Long Island Sound, Hudson River palisades, New York city, and Staten Island.

The perspective view and plan will mainly explain themselves, and the dimensions may be learned from the scale.

On the right of the hall a few steps ascend to the dining-room, lifting the floor of the same so much above that of the library, parlor and hall, that the kitchen below



PRINCIPAL FLOOR.

residence of a retired business or professional man. We have seen farm houses built in this style, but cannot say that we admire them.

the dining-room may be wholly out of ground. A few steps connect the dining-room passage with the veranda; and an easy ascent leads to the chambers above, which are five in number, beside the attic and wing-building rooms. In the latter there is a covered carriage-way for horses in waiting, (or the same might serve for a wood-house.) There is a spacious veranda both in front and rear, and the whole is raised high upon a terrace, adding much to the character of the house, and insuring dry and useful room in the basement."

CARE IN AGRICULTURE.—That excellent agriculturist, *Mr. Homestead*, has an able article on Care from which we extract the following:

"Care is the *sine qua non* of good farming, or good anything else. The course of New England farming is the loose, thriftless manner in which all its operations are conducted; and so long as the present habit of management prevails, all the knowledge of all the schools cannot redeem agriculture from its depressed position. In conversation, some time since, with a distinguished sheep breeder of the State, we were much impressed with the views expressed by him in reference to sheep breeding. In order to succeed in that important interest, he represents the first thing to be *care*, the second, *CARE*, the third, *CARE*; agreeing fully in this view, we have considered the manner in which this same care applies to every other branch of agriculture, and are most fully of the opinion that if the farmers of our State would become *careful* farmers, they would soon become scientific farmers. Care, the first requisite for sure success, will assuredly beget the desire for thorough scientific knowledge, and this demand will be imperative; and happy indeed will be that State, the demands of whose population in this respect can be met; from whose universities and technical schools, and from the humbler institutions of learning in every town and district, a flood of light can be poured to direct, to lighten and lessen the labors of the husbandman. This depends upon the exercise of *care* in these labors—will this care be exercised? Yes, surely it will, for the time rapidly approaches, nay, is now present, when without it the farmer must and will sink to the level of the mere laborer, call him farmer, peasant, serf, or slave. Without care, and the knowledge which is needed for its exercise, they stand on one dead level.

Knowledge is the life of labor.

THE MERCHANT'S CLERK AND THE PLOW-BOY.—The young man who leaves the farm-field for the merchant's desk, or the lawyer's or doctor's office, thinking to dignify or ennoble his toil, makes a sad mistake. He passes by that step from independence to vassalage. He barter a natural for an artificial pursuit; and he must be the slave of the caprice of customers, and the chicanery of trade, either to support himself or to acquire fortune. The more artificial a man's pursuit, the more debasing is it, morally and physically. To test it, contrast the merchant's clerk with the plow-boy. The former may have the most exterior polish; but the latter, under his rough outside, possesses the true stamina. He is the freer, franker, happier, and nobler man. Would that young men might judge of the dignity of labor by its usefulness and manliness, rather than by the superficial glosses it wears. Therefore, we never see a man's nobility in his kid gloves and toilet adornments, but in that sinewy arm, whose outlines, browned by the sun, betoken a hardy, honest toil, under whose farmer's or mechanic's vest a kingliest heart may beat.—*Hunt's Merchants' Magazine.*

THE FARM.

The farm! what joys that single word can give!
What warm emotions in my breast revive!
The golden age again resumes the year;
The harvests, orchards, pastoral joys appear;
Those scenes adored in youth, life's golden age.
Hark! how the birds our listening ears engage!
I hear the wheels that roll abundance round,
And flails in cadence falling on the ground.
Adorn these scenes; but let not great expense
There raise a palace of magnificence.
A simpler elegance will grace the farm;
Thus, like an eclogue will it know to charm.
Since luxury affronts the rural gods,
Banish it ever from their loved abodes.

—*Abbe de Lille.*

THE PLEASURES OF FARMING.

CICERO says most truly and eloquently: "I might expatiate on the beauty of verdant groves and meadows, on the charming aspects of vineyards and olive yards, but to say all in one word, there cannot be a more pleasing or a more profitable scene than that of a well-cultivated farm. In my opinion, indeed, no kind of occupation is more fraught with happiness, not only as the business of husbandry is of singular utility to mankind, but, as I have said, being attended with its own peculiar pleasures. I will add, too, as a further recommendation—and let it restore me to the good graces of the voluptuous—that it supplies both the table and the altar with the greatest variety and abundance. Accordingly, the magazines of the skillful and industrious farmer are plentifully stored with wine and oil, with milk, cheese and honey, as his yards abound with poultry, and his fields with flocks and herds of kids, lambs and porkets. The garden also furnishes him with an additional source of delicacies, in allusion to which the farmers pleasantly call a certain piece of ground allotted to that particular use, their *dessert*. I must not omit, likewise, that in the intervals of their more important business, and in order to heighten the relish of the rest, the sports of the field claim a share of their amusements. * * * Of country occupations I profess myself a warm admirer. They are pleasures perfectly consistent with every degree of advanced years, as they approach the nearest of all others to those of the purely philosophical kind. They are derived from observing the nature and properties of their own earth, which yields a ready obedience to the cultivator's industry, and returns with interest what he deposits in her charge."

Now is a fine time (during the hot weather, we mean) to study some points in architecture and home comfort. The parlor is on the south-west corner of the house. Three windows, without curtains or blinds, let in a whole volcano of summer beams. No shade trees shield the walls, no verandah sheds a cooling shade over the door steps. All these are matters of thought. Tell your hired man or your son to plan his house differently. Set a good example by remedying these evils as fully, as fast as you can. These are only hints. Think as far and as wisely as you please in the same direction.—*Ohio Farmer.*

JUDGE WOODRUFF, of Conn., tells us that the Greek boatmen, besides brown bread, subsist almost solely on *figs, grapes and raisins*; and he adds, they are "the most nimble, active, graceful, cheerful, and even merry people in the world."



Horticultural Department.

ANNUAL NOTES ON STRAWBERRIES.

At the annual period for the appearance of a transient fruit like the strawberry, it is interesting to watch for the old, familiar faces which years ago met us at our exhibitions, and claimed the attention of committees and visitors. Some there were that created quite a sensation, but are seen no more; while a more humble rival holds on and increases in favor. We remember how this or that novelty in the hands of a skillful cultivator attracted all eyes and secured the award of merit from our fruit committee; but after a few seasons of general trial it has become scarce or quite extinct; and we find that, for want of care in examination and investigation of the means by which the specimens were secured, praise has been given to a *variety* of little value, which should have been bestowed upon *culture*, which always deserves praise, and seldom gets sufficient encouragement.

I am not disposed to complain of this state of things, and believe our Societies should award a good premium for new and fine varieties; but, at the same time, I would like to have it well understood, that the prize for "the best quart" is really awarded as much to *culture* as to *variety*.

No man can expect to excel without high culture, neither ought he to succeed in obtaining a first prize without the use of a variety of superior excellence in point of quality and size of fruit, vigor and productiveness, combined with great constitutional hardiness in the plant.

The period of time during which we may depend upon having fine strawberries is so limited that few cultivators wish for many varieties; and these numerous sorts urging themselves before the public are much in each other's way. The amateur who adopts one must of necessity reject one of his old sorts, and thus every new candidate crowds out an old incumbent. This is one reason for the disappearance of old sorts. Another reason is, that "while men sleep," the runners of some strong growers, like an army, cross the narrow alley which divides the different kinds, and, taking possession of the soil, displace the weak ones, and the following transplanting season are the only plants found fit for new beds. Thus disappear our New Pines, Hovey's Seedlings, and Hudsons, before the inroads of Large Early Scarlet, Crimson Cone, and sundry rampant staminate, too poor to mention, but which, with mammoth names and wonderful vigor, have filled our gardens to the exclusion of better sorts.

We learn from these results, that a variety, to become permanently valuable, must be a vigorous grower, and to remain long in the hands of the mass of the people should be a variety having perfect flowers.

The *Large Early Scarlet* has all the requisites of a variety which will endure; and thus we find it year by year in fine perfection in many hands, and always productive; grown upon all soils and ever hardy; mixed up with Hovey's Seedling, it soon has the whole field; multiplying rapidly, there are always plants enough for new beds; moderate in size, it will yet produce as many pounds of fruit upon a given space as any other variety; of a handsome scarlet color, it holds a high place as a market sort, and although not bringing the *highest* price, yet proves more profitable than the larger berries. The flavor also is fine and quite acid; but this only makes room for more sugar; and the result is the best kind of a berry for the table. Progress we most certainly have made; but still we should miss L. E. Scarlet very much. It is just the berry for "the million."

Walker's Seedling is another berry which has many of the characteristics of a variety which will last long and grow in favor. The flowers are perfect and the fruit is very handsome, of a dark mahogany color, borne in great abundance, and every berry perfect. I have never seen one which produced fruit more uniformly perfect than this. The plant is moderately vigorous, and hardy enough to live in pretty hard times; but the flavor is, to my taste, not quite first rate. There is also too much water, and not enough pure, rich acid in the juice.

Boston Pine has also much to recommend it, and occasionally surpasses everything in productiveness; but it is fickle, and not to be relied upon for a crop. The flowers are perfect, and the fruit stems produced abundantly, but for reasons unknown to me, frequently refuses to grow well, and the dwarfish, scrubby plants perfect but little fruit. If it were a *certain* berry, I should call it a fine one.

Genesee has also perfect flowers, and vigor enough to secure durability. The size and extreme beauty of the fruit also recommend it highly. There has seldom been seen any dishes of strawberries surpassing in beauty those shown before our Society of this variety, and the favor with which it seems to be regarded by many who have had years of experience with it, is good proof that the crop is not small. It is, however, deficient in flavor, as compared with the best sorts. We shall probably see it become more abundant.

Moyamensing is another common sense berry, which must become better known than it now is. With many of the good qualities and characteristics of Large Early Scarlet, and of larger size, it will spread, and perhaps more than compete with that good old sort.

Hooker has raised quite a breeze this year, and been much admired by the few who have known it for the past three seasons. It is claimed for it that along with the great size and undeniable excellence of the fruit, the plant is very hardy, vigorous, and productive, with perfect flowers, a combination of good qualities not yet proved to belong to any one sort heretofore disseminated. Time and trial can alone prove this; but we hope much from it.

There are many other sorts of some reputation and widely disseminated, which have perfect flowers, pro-

ducing fair crops; but there are such decided blemishes upon them, or they are so slightly known to me, that I will not mention them by name. The English and French sorts all have perfect flowers; but a five years' trial has proved the end of nearly every one of them. They either die in the winter, or produce a few large and handsome berries at the first picking, and then give us a balance of such very small and imperfect berries, that we give them up in disgust.

The second class of strawberries in which we have to deal is the pistillate, or varieties in which the stamens, or organs which produce the pollen, are so imperfectly developed, that the pistil is not fertilized by pollen from its own blossom. This characteristic is fixed, or so nearly so as to make it true for all practical purposes, and a variety which produces no stamens on one flower will not on another; nor can a variation be found from year to year; consequently they must depend upon their neighbors for pollen, and we have to provide a neighbor which has pollen enough for both.

This is an inconvenience, and frequently causes the loss of an entire crop by planting the pistillate variety alone, which, with reasons before mentioned, leads me to say that we ought to secure a list of perfect flowering sorts good enough to replace the pistillates entirely, and be rid of the trouble with barren beds.

The following pistillate varieties will produce only when grown in beds or rows adjoining those which have perfect flowers:

Burr's New Pine.—If this variety had only a more vigorous habit, and a perfect blossom, it would be hard to beat. The flavor is surpassingly fine and rich—not so acid as most varieties, and consequently better to eat from the vine without sugar. It cannot, however, be depended upon under adverse circumstances. It has not sufficient stamina, and will, I fear, in a few years, become extinct, unless some one will raise a staminate seedling which has more vigor. Who will try?

Crimson Cone now fills a place of some importance as a late market fruit. It has wonderful vigor, and holds on best of all the sorts among grass and weeds when neglected. The beautiful color and peculiarly cellular form of the surface of the berry render it quite noticeable, and its great productiveness gives it value; but the quality is not fine; it is acid, and not rich, but of a pure and pleasant flavor. This, too, should be replaced by a new late berry, with perfect flowers.

Hudson, with a good soil and a fair chance, is fine and very productive. It is also good for transporting to market, but only moderately vigorous, and has not perfect flowers.

Hovey's Seedling.—This grand berry has won so many prizes for "the best quart," and produced so many specimens of wonderful size, whilst, at the same time, it has borne famous crops for some men, and such poor ones for others, that I can found no opinion of its merits, except from personal experiences. We have never had a great crop, but have had moderate ones of beautiful berries of large size, but not very good. They were only moderately rich, and not of the finest flavor. The vines have never spread rapidly, but have stood the winters well. I should call it a hardy but not a vigorous sort—one which will last well, but never prove very profitable to cultivate.

McAvoy's Superior would be superior to the above if it were not for several drawbacks. It does not produce so much perfect fruit, nor is it so firm for the market, as Hovey's Seedling. It is of better quality, and frequently the specimens are as large, but I find it so difficult to fertilize, that it is of no value under ordinary circumstances. Perhaps some one can tell what to do for a refractory pistillate like this? The plant is vigorous, and the stems of fruit splendid when they are fertilized. My opinion is, that it will not be known ten years hence. It is too provoking to see these twisted, shrunken one-sided berries, when we can raise those which are as large and as good, and far handsomer.

Black Prince is one of those novelties which a few years since had many admirers. Of great size, and abundantly productive, it still lacks the most important qualities. It is not vigorous, nor of the best quality. It will not be found long in our collections, and may serve as an example of the many new things (most of which are not its equal by far) which have from time to time figured in the catalogues of nurserymen and the gardens of amateurs. It has had its day, and must now make room for other novelties to have theirs.

The few sorts commented upon will serve my present purpose as well as a more extended list, and may be considered among the most worthy of note. There is a large number of new sorts now before the public, which will undoubtedly go the same round, and leave perhaps none of their number to go down to posterity. At present it would be unfair to judge of them; let them try and see if they can work themselves into the hearts of the lovers of fine strawberry-rises. H. E. H.

NEW FOREIGN VARIETIES OF STRAWBERRIES.—In an account of a visit to the grounds of Mr. O. M. Hovey, of Boston, the editor of the *Boston Cultivator* thus alludes to some foreign varieties of strawberries that have but recently been introduced into this country:

"Several of the foreign kinds have borne for the first time in this country this season—such are Sir Harry, Admiral Dundas, Sir C. Napier, Omar Pacha, &c. All these are of very large size, and judging from their appearance on the vines, are prolific. Sir Harry is uniformly large—somewhat larger than Hovey's Seedling—and equal, if not superior in flavor to any variety in the whole collection. Admiral Dundas is the largest strawberry we ever saw or heard of. Six of the berries, taken as the average of a bush-full, weighed five ounces. It is of coxcomb shape, but not hollow at the center. The flavor is good, but not equal to Sir Harry. Sir C. Napier is a large fruit, with a decided Hautbois or musky flavor. Ajax, large, nearly as dark a color as the Black Prince, but greatly superior to the latter in flavor. Capt. Cook is of good size, and in flavor among the best. The Bieton White is a late kind, not in perfection at the time of our visit, but evidently a good-sized and handsome berry, for that color."

LOCUST TREES ON RAILROADS.—The Illinois Central Railroad Company has contracted for the planting of locust trees on each side of their road, over a space of one hundred and twenty miles. Their object is to raise trees that will furnish ties for the use of the road. We trust other railroad companies will speedily follow their example.

NOTES FROM INDIANA.

THE effects of the past severe winter all over the North-west have been both severe and instructive. In this section the mercury in several instances during the first and second months, indicated from twenty to twenty-eight degrees below zero, but the effects have not been so productive of injury to young fruit trees and shrubs as was generally feared, yet they have been killed down to the ground by thousands, and very many large bearing trees have shown no indications of life. Many others commenced growing in the spring in a very feeble way, and have since died. The latter instances having been far more numerous than they would have been had the trees been properly shaded and mulched during the hot dry weather of early summer.

As before stated, these incidents have been instructive, from the fact that a great amount of evidence has again been set before us in favor of a "thorough and efficient system of protection" from the cutting winds of the north-west, and the warm and enlivening rays of the sun at meridian, after cold weather commences, and before spring is fairly under way. We regard the one as important and necessary as the other. Our experience in fruit culture at the West, for the past five years is, that a north-eastern exposure, protected by the forest, out-buildings, or even a thick belt of trees on the south and west, is of incalculable advantage. In our own vicinity, every peach tree is dead, so far as we know, except two. One stands at the north end of the house, where the sun, even now, does not shine except early in the morning and late in the evening. The other is in a deep ravine on the bank of the Maumee river, open only to the north. It is therefore important to shelter the more tender fruits from the direct rays of the sun, which in nine instances out of ten, is productive of more fatal results than cold and wind combined; indeed, it is no unusual thing for the mercury to stand at 40° and 45° at noon, and sink as low as 12° to 14° below zero by eight o'clock P. M. These sudden changes are more apparent during the months of January and February. More injury is undoubtedly done to fruit buds during the months of December and March than at the times above mentioned. The best peach crop which has been had at the North-west in ten years, was following the steady cold winter of 1852. The autumn previous was cool and dry; the ground froze up December first, and did not fully thaw out until the middle of March, after which time we had no cold weather. Though contrary to the popular theory that when the mercury descends 14° below zero all the peach buds are killed, yet the thermometer *did* indicate on Jan. 6, 18° , Jan. 7th, 22° , Jan. 9th, 21° , and gradually subsided until the January thaw, which took place the 14th and 15th of the month.

It appears evident, therefore, that it is not the extreme cold that does the mischief, but that much depends on the state of maturity of the tree or capability to endure the cold, and sudden changes of weather.

We beg farther to present a few observations taken from the specimen grounds of S. D. G. NELSON, Esq., where there are over one hundred varieties of pears, both dwarfs and standards. They are now making their third year's growth since being planted, most of which were, last fall, fine pyramidal trees

from five to six feet high. *Three-fourths of the entire collection were frozen down to within two feet of the ground, and very many of them are dead.* Among those that do not, at this time, appear to have been injured at all, are the following:

Buffum, Easter Beurree, White Doyenne, Beurree d'Anjou, Belle Lucrative, Oswego Beurree, Forelle, Sheldon, (right glad am I to report this fine variety among the undoubted hardy sorts,) Beurree Goubault, Glout Moreau, Brandywine, Beurree Langelier, Tyson, Duchesse d'Orleans, Canandaigua.

The following list are those which have been slightly injured: Doyenne Robin, Duchesse d'Angouleme, Madeleine, Steven's Genesee, Bloodgood, Schenk's August, Jones' Seedling, Henry 4th, Belle et Borne, Urbaniste, Doyenne Gris d'Hiver, Noveau, McVean, Doyenne d'Hiver d'Alencon, Figue de Naples, St. Ghislain, Dr. Bouvier, Blaugett de St. Orge, Doyenne Gris d'Hiver, Colmar Vanmons, Oswego Incomparable, Jalousie de Fontenay Vendee, Beurree Diel, Lawrence, Sujette de Boray, Andrews, Golden Buerre of Bilbao, Vicar of Winkfield, Bartlett, Doyenne Gris, Onondaga, Osband's Summer, Doyenne Rose, Surpasse Virgalieu, Chaumontelle, Jersey Gratoli, Van Mons Leon le Clerc, Calebasse, Johannot, Cabot, Beurree Duval, Royal Rousselett, Soldat, Laboureur, Flemish Beauty, Summer Rose, (better dead than alive,) Captif de St. Helena, Belle de Noel, Summer Franc Reall, Winter Nelis, Louise Bonne de Jersey, Dearborn's Seedling, Edwards' Henrietta, St. Michael Archangel, Rendelete, Muscat Robert, Pratt.

Many others might be enumerated, but the list is already too extensive, and occupies more space than we designed. We wish, however, to present one other point. On the grounds above alluded to are in all twelve dwarf Bartletts; with one exception they are perfectly dead down to the high snow mark. This one stands on the north side of one dwarf cherry tree (May Duke), the limbs of which shade and cover the Bartlett completely. Though open to the west, north and east, not a single bud is injured; while only four feet away are three trees of the same variety, on the same kind of soil, and to all appearance the trees are alike as to growth, &c., but the last mentioned are dead, and were killed, to all intents and purposes. The same is true of the Buffum, a valuable variety, hardy in every respect, and a very abundant bearer. If we could have but one pear, it would be this variety. The Easter Beurree is also equally valuable. Yearling grafts which made three feet of growth last year, of these two last varieties, together with those enumerated in our first list, stood during winter in the nursery row, and with very few exceptions, are not materially injured, though at the opening of spring we considered them nearly all as lost.

We had heretofore supposed that there was a decided difference in the hardness of standard and dwarf trees, the difference being in favor of the dwarfs; but the result of the past winter, and our experience of late, leads us to believe that there is no natural difference in this respect. Our soil is a dark, black loam, with occasional patches of sand, all resting on clay subsoil, and has been well underdrained, and the trees carefully cut back, pinched in, and regularly mulched. Nearly all the Heart and Bigarreau cherry trees have been destroyed by the disastrous effects of last winter. The May Duke, Belle d'Choisy, and nearly all the varieties of the Morello are doing beautifully and bearing partial crops. Strawberries have

borne abundantly. The varieties which have generally given the best satisfaction have been Hovey's Seedling, Large Early Scarlet, McAvoy's Superior, and Longworth's Prolific. Wm. H. LOOMIS—*Fort Wayne, Ind.*



SUMMER PRUNING OF PEAR TREES.

MESSRS. EDITORS:—A great deal has of late been said and written about the summer and winter pruning and training of fruit trees—more particularly the pyramidal dwarf pear tree, the subject of this article. And it has been said and written by many very able and competent persons; so that I can hardly hope to add anything new; and yet I can never remember to have seen precisely my mode of summer treatment recommended; therefore, I will take the liberty of giving it to you in brief, at the *risk* of a little repetition. Everybody knows or ought to know, that the beauty of a tree, and the quality of its fruit, depend upon the free action of its branches, and the healthiness of its foliage—hence the necessity of leaving upon the tree—not cutting away—the best wood and buds. Now, if a young, healthy pear tree, of any vigorous, growing kind, be left to itself until fall, without any summer pinching or pruning, it will, in all probability, have grown, at all its principal shoots, from eighteen to thirty inches in length; and it will very readily be seen, that all the buds on the upper half of these shoots are round and plump, while those on the lower half are small and weak. Now, as it is usual at the winter pruning to cut back these shoots about half their length, it follows that we cut away all the best part of the tree! Now, to remedy this, in the month of August, I go over all my trees, and bend down, or partly break off, all these principal shoots, a little above where they are to be pruned back to, and leave them hanging on the tree (as represented in the annexed engraving). They should be

broken just enough to check the flow of sap, but not enough to kill the branch. Leaving them on the tree conducts the sap beyond the wound, and prevents the upper buds below the wound from starting into growth; while the wound impedes the circulation of the sap, and it is stored up in the buds and branch below it. In pruning, the branches should be cut with a very sharp knife, taking them off at one clean cut, close above a bud; and the cut should be made from the inside of the branch, leaving the bud pointing outward. The main branches should be straight and single—not forked; and all small shoots growing on these main branches are cut out within one or two buds of their base, which will make fruit spurs another year.

The right time to break the shoots is soon after they have formed and begun to ripen their terminal buds, which usually takes place during the month of August. JOSIAH SALTER.—*Rochester, N. Y.*

RAISE AND USE MORE FRUIT.—The *Life Illustrated* concludes an excellent article on the "Right Use of Fruits," as follows:

"Who but must feel, in view of what has been said, that we use too little fruit—that we raise too little fruit? Let every man who has an acre of ground, plant one tree more. Those who are destitute of fruit may have a most excellent sort the first year by setting out the strawberry; and by watering freely after the commencement of blossoming, the duration of the bearing season will be greatly prolonged. Meanwhile cultivate the raspberry, currant and grape, which, in from two to four years, will yield a most luscious harvest. At the same time, too, let the cherry, peach, pear, and apple be growing, and the greatest variety may soon be made to crown the board, while not a year need pass without a share of these natural and health-giving luxuries."

THE PINE TREE WEEVIL.—This little pest, which despoils our plantations of evergreen trees, particularly the splendid Norway spruces, by destroying the terminal shoot, is scarcely known, or, if known, its habits are not familiar. Suddenly the terminal shoot of some favorite Norway spruce or white pine, begins to fade and droop, as if scorched by the sun; and the cultivator frequently does not know the cause, and allows the shoot to remain; or, if he cuts it off, he fears to injure the tree by cutting it off low enough. Thus the insects are left on the tree, from which they soon emerge spreading their devastating ravages. A little knowledge would thus prevent, or at least lessen, the destruction; for if the shoot is cut off, the moment it shows any signs of drooping, several inches below the injury, and immediately burnt, every weevil is destroyed, and further mischief prevented, unless they approach from neighboring trees."—*Hovey's Magazine of Horticulture.*

THE PRICKLY ASH AS A HEDGE PLANT.—A correspondent of the *Canadian Agriculturist* suggests the prickly ash (*Xanthoxylum*) as a hedge plant. He says it "forms a thick, thorny bush, very ornamental to the eye, and I should imagine, if closely set, would make a formidable barrier against man or beast. It is found chiefly in swampy grounds, but I have seen it in gardens, on dry soil, where it grew very luxuriantly. It is a powerful tonic, the bark being used in ague by the lumbermen. In its wild state I have never seen it injured by animals." Have any of our readers had any experience with it?

WESTERN WINTERS.

EDS. GENESEE FARMER:—We have heard much about Northern winters and their effects upon fruit trees and half-hardy shrubs and plants, but I think it is time something was said about *Western winters*, and about what may be done to prevent the annual loss which now occurs of fruit trees, especially in our North-western States and Territories.

A recent trip to the middle of Wisconsin from Rochester, via the Great Western road thro' Canada West, and along the Michigan Central Railroad, thence through by lake and railroad to Fox Lake, Dodge county, Wis., and home by the Lake Shore route, satisfied me beyond question, that there are few bearing peach trees in the whole section traversed by these roads that are now worth a cent. The past winter has either destroyed them entirely, root and branch, or so far enfeebled them that the growth now thrown out will never become sufficiently vigorous to make the trees of any value. This is a hard case, because some localities along these roads, west of Buffalo, have been considered very favorable to the peach crop. The loss is great, and will be seriously felt in southern Michigan and northern Ohio and Indiana. Nothing but a new growth of young trees can restore matters to the prosperous state in which they were one year ago. This will take at least five years, and in many places longer, because trees cannot be procured to replace the dead ones.

Peach trees have not suffered alone. All the finer varieties of cherries, many of the pears, and even some apples have suffered exceedingly. In Wisconsin the destruction of cherries and pears is very great, and the loss of bearing apple trees large.

Another item far from inconsiderable, is the total loss of young fruit trees transplanted last fall from the Eastern and Western nurseries by the farmers and amateurs throughout the country, and the great injury to the nurseries scattered through the West. Many of the latter have their entire stock of young trees frozen down nearly to the ground, and in some instances quite ruined.

The consideration of a picture like this, very naturally suggests an inquiry as to what may be done in future in the several cases.

So far as Wisconsin is concerned, there is no use in planting peaches again; and only the more hardy of the cherries, principally Duke and Morello varieties, will be found eventually to bear the climate, so as to become permanently valuable. An occasional severe winter will ruin the rest. In the same State it becomes the practical cultivators to watch with care the relative hardness of various winter apples and pears, and see that State and County Agricultural and Horticultural societies are supplied with the names of hardy and tender kinds. Information on these points is much needed by nurserymen and planters. The cultivators south of Wisconsin will without doubt speedily replace their dead peach orchards, and see that the places made vacant by the loss of tender varieties of cherries, pears and apples are filled by varieties well ascertained to be hardy and productive of fine fruit in their locality.

The probability of another winter as severe as the past, is so slight that few of the lovers of fine fruit will be deterred from replanting with something, but we hope due care will now be exercised to secure the *hardest* varieties.

The loss of so many nursery trees may well lead planters to say: What shall be done with the nursery trees which we wish to procure from the East this fall? The answer is plain, *They must be buried root and branch in the earth during the winter*, and not set in the orchard until next spring. Numerous instances have come under my observation where this course has been entirely successful. It is the course always recommended for half-hardy plants, such as raspberries, the canes of which, if not protected in this way, seldom produce any fruit after an ordinary winter; whilst if laid down and covered slightly with earth, they are unharmed by the coldest weather.

Much has been said and written upon transplanting, and fall transplanting is now very commonly recommended; but it should not be forgotten that there may be very great difference between transplanting a tree carefully in one's own grounds in Western New York, or New Jersey, in the month of October or November, without great delay, and in such a situation that it shall make some new roots immediately, and afterwards be subject to only moderate cold, and no prairie winds so dry and piercing the inevitable result is to season branch and trunk before vegetation begins; the difference, I say, is so great that what is reasonable in one locality, is folly in another.

There yet remains to be written a sad chapter of experience by western planters, who have purchased choice varieties and excellent trees from the nurseries at the east, and seen the whole lost to themselves by following advice suitable enough for some places, but ruinous at the west. I hope for the interest of the farmer, the credit of the writers upon planting, and the honor of nurserymen, that this system of things will not long continue. The great difficulty of procuring good trees in the spring, after fall sales have swept over them, is a common reason urged; but the strongest is the delay in transporting trees west in the spring, if this continues; the obvious and true course with all western planters, is to procure trees in the fall, when transportation is easy; but be sure to have them under ground in a dry spot, or planted in a cellar, during the following winter. H. E. H.

CULTURE OF PIE PLANT.—In reply to the inquiry of your correspondent in the June number, I would say that his pie plant grew as it is very apt to do the first year after transplanting. It would have done a little better if he had cut the seed stalk; but he will be likely to get it better next year. If he will place some boxes (say a foot high) around his plants next spring, the leaf stalks will be longer and better for it. Some persons cut an old flour barrel in the middle, and make two boxes. The pie plant will be earlier if he will place a coat of warm manure on it next fall, leaving it until the ground begins to warm next spring; then spade it into the ground. Pie plant flourishes best on a moist soil, and will not do well on a very dry soil. D.—Hebron, Ind.

CABBAGE WORMS.—JOHN FARRAN advises, in the *Carolina Cultivator*, to "break off a large leaf from the bottom of the cabbage, and place it on the top, upper side down. Do this in the evening, and in the morning you will find nearly or quite all the worms on each cabbage have taken up their quarters on this leaf. Take off the leaf, and kill them, or feed them to the chickens, and place the leaf back, if there be any more to catch."

THE ROYAL BOTANICAL SOCIETY OF LONDON

WE condense a few particulars of this Society, and of its recent exhibition, from the correspondence of the *Saturday Evening Post*:

The Botanical Society was formed some twenty-five years ago. Its object was to enable students and flower-loving residents of this great Babel, the opportunity of becoming practically acquainted with their favorite science, and of developing a taste for horticulture among the citizens. It is now a large and wealthy Society, and its grounds, in the Regent's Park, form one of the most beautiful resorts of those who seek for fresh air and green walks in the midst of the city itself. The Botanic Gardens comprise about eighteen acres, and are a specimen of what English landscape gardening can effect. They were the land of a nurseryman, and were, in fact, merely a broad, open field, slightly sloping to the west, a fact hardly credited by a visitor wandering through the sunny slopes and shady dells. The approach is by a beautiful drive through the Park, bordered on either hand by the glorious old hawthorns which form its pride, whose masses of pink or white blossoms fill the air with their fragrance. Entering the pretty rustic lodge, and passing the graceful, ivy-covered screen that veils the gate, the visitor finds himself on a broad, gravel walk; on the right, a sloping upland, crowned by masses of flowering shrubs, at the base of which, through drooping willows, he catches a glimpse of a little reedy lake; while on the other hand, lie green lawns, sloping down to undulating lands beyond. At the end of the path rises the terrace, on which is erected the "winter garden," a large glass building, three hundred feet long by two hundred feet wide, with a central dome, filled with tropical plants, and fragrant with tropical blossoms. Standing upon the terrace, upon which the building is erected, the eyes wander across the gardens, over the open uplands of Primrose Hill, Highgate and Hampstead, to the classic heights of Harrow; and it is difficult to conceive, looking across these broad, open grounds, from the midst of these fresh, green lawns, brilliant with flowers, shady with noble old trees, that you are in the centre of an immense city. Beyond the terrace are lawns and spiral beds, devoted to the reception of botanical specimens, containing nearly 10,000 plants, arranged according to the botanical system of De Candolle, so that Professors and students may turn from their books, and dry, dusty specimens, to pursue their studies amidst the fresh beauties of life.

On the left of the central building, winding paths lead now through a shady dell, arched by a rocky bridge; now through masses of verdant foliage upon a gentle slope, to a hollow amphitheater, devoted to American plants, and glowing, at this season, with magnificent rhododendrons, azaleas, florals, &c., that seem to bring around one the forests of Brazil. Still farther is the rosary, one of the great attractions of the Gardens during the latter part of the summer. It is hardly credible that all this beautiful variety of surface, dells, slopes, lakes, everything, is the work of art. On certain days of the week, the regimental bands play in these gardens, and crowds of people promenade their broad walks and winding paths. But to judge of the results of the Society, in its influence upon horticulture and fruit raising, the visitor must see their exhibitions. Of these there are four

every summer. The first, for early flowers, in May; the second, for American flowers, which seem to form a special and favorite branch of horticulture among English gardeners; the third and fourth are for flowers and fruit. The third exhibition of the year took place this week. Behind the "Winter Garden" an immense tent was erected, above an amphitheater, especially constructed for these exhibitions. It is, in fact, a hollow amphitheater of turf terraces, with a gravel path winding between them, sinking from the entrances at the two ends of the tent towards the centre. These terraces of fresh, green turf are only the foundations of the endless masses of flowers and shrubs exhibited, and which are artistically set in the turf itself, so that it would appear as if they had grown there. The whole arrangement of the flowers is really a work of art, and anything more like a glimpse into fairyland than the view from the entrance can hardly be conceived. Here bank above bank of roses, of matchless perfection; there masses of orchids with their delicate colors, and strange, fantastic forms, looking like the wild erections of old German romance; terraces of geraniums, whose velvety petals, with their vivid tints, might tempt fairies to steal them for their mantles; glowing cacti, jassamines of a style and perfume worthy of the South; endless is the profusion of flowers, one group more beautiful than another, each individual plant seeming to be a perfect specimen of floral perfection. Another large tent in the neighborhood is devoted to the fruit exhibition, where the magnificent piles of strawberries, cherries, &c., and hot-house fruit of every kind, by their size and perfection, and their tempting perfume, remind one of the banquets of Paradise. Some 20,000 people visited this lovely show, and the streams of gay toilettes that poured through the shady tents and covered lawns, added not a little to the brilliance of the scene.

The exhibition, however, is a very important matter to English gardeners, the prizes distributed—gold and silver medals to the value of about \$500—being eagerly contested, and the emulation between the public gardeners who supply London, and the private gardeners of the wealthy classes, running very high. But the exhibitions of the Botanic and Horticultural Societies are not interesting merely as matters of luxury and show. They have had an important influence in developing that universal taste for flowers and gardening that is one of the most artistic and graceful characteristics of the serious English character, and which is peculiarly a national taste, powerful even in the very poorest classes of the crowded cities, and valuable as all such tastes that popularize a love of art and nature must be. And no one who enters the broad walks of the Park, and passes from them into the beautiful gardens of the Botanic Society, fresh from the crowded streets that stretch their interminable length of brick and mortar around them, but will feel how excellent a moral influence must be exerted upon their crowded denizens by anything that brings into their very midst the quiet, beautiful influence of lovely natural objects.

A GREAT DANDELION.—The *Homestead* says: "A dandelion plant has recently been plucked from NATHANIEL AMES' farm, in North Bridgewater, Mass., which weighed twenty-seven ounces. It had two hundred and forty leaves, and one hundred and twenty-seven buds and blossoms."

SUMMER EXHIBITION OF THE FRUIT GROWERS' SOCIETY OF WESTERN NEW YORK

THE Summer Exhibition of this Society took place at Syracuse on the 27th and 28th of June—a report of which was too late for our July number. The Show was meagre in everything but strawberries and cherries. CHARLES DOWNING, of Newburgh, presented branches of the "Great Bigarreau" cherry. From these, it would appear that this variety is equally remarkable for its productiveness as for the size of its fruit. J. M. MATTISON, of Tompkins county, exhibited some 20 varieties of last year's apples.

The discussions at this meeting were confined mainly to the cultivation and varieties of the strawberry, the cherry, and the pear. Our space will not allow us to report these. We do not know that there was any information of special interest elicited.

On a call for the best varieties of strawberries for amateur cultivation, Hooker's Seedling, Burr's New Pine, Genesee, Large Early Scarlet (for its earliness and productiveness), Moyamensing, Hovey's Seedling, and Bush Alpine, were named. The latter had been rejected by some of the members present.

For market strawberries, the Large Early Scarlet and the Crimson Cone were almost unanimously chosen. Dr. SYLVESTER, of Lyons, recommended Hovey's Seedling. He had obtained two bushels from a bed twenty feet square, or at the rate of about three hundred bushels per acre. He always gives his strawberry plants plenty of *soda water* (every third day in wet, and every day in dry weather). He had never tried water without soda. He thought *soda must* be a specific, because the "fruit contained 27 parts in 100 of soda"—an argument which will have little weight with any acquainted with the results of experiments with specific manures. On a vote being taken, Hovey's Seedling was rejected for market cultivation.

Mr. E. SMITH, of Geneva, had cultivated as many as 55 varieties. He preferred Large Early Scarlet, Burr's New Pine, McAvoy's Superior and Rival Hudson. He lets his plants bear only one year (the second from planting), and then plows them under. He finds it cheaper to re-plant than to keep free from weeds. He plants early in the spring, in rows three feet apart and twenty inches in the rows, and keeps them clear with the horse cultivator. Heavy land properly underdrained, is best for strawberries.

Mr. H. E. HOOKER had found the practice of allowing the runners to cover the ground the best for market gardening, although the heaviest crops are obtained when cultivated in hills; but the latter is much more expensive. The best berries he had seen, grew on clay soil. He prefers, on the whole, a heavy loam.

DISCUSSION ON THE CHERRY.—The Mayduke, Great Bigarreau, Napoleon Bigarreau, Governor Wood, Elton, Black Tartarian and Early Purple Guigne, were named as the best varieties of the cherry by different members present.

Downer, Downton, Black Eagle (for its high flavor, although sometimes a poor bearer), Knight's Early Black, and old English Morello, were named as valuable varieties; also, for amateur culture only, Reine Hortense and Belle de Choisy.

H. G. DICKERSON, of Lyons, stated that a neighbor who had twelve large trees (eight of which were Black Tartarians, two Black Hearts, one Yellow Spanish, and one Black Eagle), sold \$168 worth of cherries from them in one season.

DISCUSSION ON THE PEAR.—The names of those varieties which do best as dwarfs being called for, the following received a number of votes in their favor as worthy of recommendation, and none against them, viz: Louise Bonne of Jersey, Duchesse d'Angouleme, Beurre Diel, Easter Beurre, Glout Morceau, and Vicar of Winkfield. The Urbaniste divided the votes, some being for it and others against it, as worthy of general recommendation. P. BARRY said, that although a slow grower on quince at first, it afterwards improved, and became at last nearly equal to the Angouleme.

P. BARRY presented a list of several additional sorts, which, with the preceding, he had handed in to the last meeting of the American Pomological Society; but it had subsequently been so patched up, that he could not fully approve of it. These were severally taken up, with the following results:

Rostiezer, several thought, had not been sufficiently tried, and that there were but few old trees to judge from, which seemed to be the conclusion of the meeting.

Tyson, White Doyenne, Beurre D'Amalis and Bufum, had many votes each in their favor, and none against them.

Uvedale's St. Germain, or Pound, had a small vote. So far, P. BARRY's list.

Flemish Beauty was proposed, as a suitable variety for dwarfs; but while a few had succeeded with it, many others had failed; and it was not recommended.

Belle Lucrative being named, several cultivators stated, that at eight or ten years of age, it usually decays, and is not long lived.

Osband's Summer received a small but nearly unanimous vote in its favor.

VANILLA.—The Vanilla, so much prized for its delicious flavor, is the product of a vine which grows to the top of the loftiest trees. Its leaves somewhat resemble those of the grape; the flowers are red and yellow, and when they fall off are succeeded by the pods, which grow in clusters, like our ordinary beans; green at first, they change to yellow, and finally to dark brown. To be preserved, they are gathered when yellow, and put in heaps for a few days to ferment. They are afterwards placed in the sun to dry, flattened by the hand, and carefully rubbed with cocoanut oil, and packed in dry plantain leaves, so as to confine their powerful aromatic odor. The vanilla bean is the article used to scent snuff, flavor ice-cream, jellies, &c. The plant grows in Central America and other hot countries.

TO DESTROY WEEDS IN PAVED WALKS.—The following method of destroying weeds on pavements is said to be employed at the Mint in Paris:

"One hundred pounds of water, twenty pounds of quick-lime, and two pounds of flour of sulphur, are to be boiled in an iron vessel; the liquor is to be allowed to settle, the clear part drawn off, and being more or less diluted, according to circumstances, is to be used for watering the alleys and pavements. The weeds will not re-appear for several years."

PILGRIM ROSE.—At a recent Floral Fair held in Boston, there was exhibited a rose plucked from a bush which was propagated from a tree brought over from England by the early emigrants, and called the "Pilgrim Rose."

REMEDY FOR THE BARK LOUSE.—A. G. HANFORD, of Waukesha, Wis., gives the following remedy for the bark louse. We are not much troubled with it here; but in the West it has done great mischief:

"The best remedy," says Mr. H., "for the apple scale or bark louse, that has yet come to my knowledge, is the 'Tar and Linseed Oil Mixture.' This, if properly applied, proves harmless to the trees, and at the same time is effectual in ridding them of this troublesome insect. It is of easy application, to be made at a season of leisure, when the trees are in a dormant state, and no foliage to interfere with the free access to the limbs, and a thorough application of the remedy thereto. First, cut out all dead and diseased limbs, and thoroughly prune the tree; this will lighten the labor in making the application, and, by reducing the head, will concentrate all the sap in the remaining buds. Take tar (such as is sold at the stores for farm purposes) and linseed oil, equal parts, and mix by thorough stirring over a moderate fire. If the tar has become thick by exposure, it may be necessary to add more of the oil. The composition should be as thin as common paint. Make the application with a paint brush, early in the spring, before the buds have swollen, putting it on as thin as possible over the entire surface, except so much of the last year's growth as was made after June, on which there will be no lice. If the weather should be cold, it may be necessary to warm the mixture, in order to have it spread easily; but it must not be hot. This application is like a varnish, and soon dries hard. When the sap begins to circulate, and the bark expands, it cracks, thus forming innumerable breathing holes for the bark; during the summer it peels off, carrying the scales, now dead, with it, leaving a clean, unharmed bark beneath."

GRASS OF THE BRAZILIAN PAMPAS.—The *London Gardeners' Chronicle* says:

"One of the most interesting plants now in flower at Turnham Green Gardens, is the Pampas Grass of Brazil (*Gynerium argenteum*). This plant has twelve flower stems, each some eight feet long, about the thickness of the thumb, and supported by an erect panicle of inflorescence at least eighteen inches in length, which, beneath the bright sunshine, looks a beautiful, light-colored feather, spangled with silver; the panicle is in the form of the beautiful *Arundo phragmites*. The leaves, which are some seven or eight feet long, with a hard, flinty skin, grow in tussocks, which, in situations at all favorable, soon acquire a large size. When in flower, certainly few plants are more striking or magnificent in appearance than this gigantic grass, which, being perfectly hardy, will be found to be a great acquisition to ornamental grounds."

THE BEAUTY OF GREENMOUNT ROSE.—This is one of Mr. PENTLAND's new seedling roses. The *Magazine of Horticulture* says:

"It is one of the best roses of its class we have ever seen, and excels any of the French varieties. It is a decided acquisition, and must inevitably become a great favorite. The color is the deepest and most brilliant carmine, rivaling the much admired Chenedole, quite distinct, and readily distinguished in the most extensive collection. Its growth is vigorous, its foliage good, the clusters of flowers large, and the blossoms of medium size, very full, cupped and double. In addition to these fine qualities, it is a most profuse bloomer, small plants just received from Mr. Pentland being covered with buds."

PLASTER CASTS OF LEAVES AND FLOWERS.—The following is the process recommended by the ingenious Mr. DEEBLE, the engraver, at Islington, by which that gentleman succeeds in taking the most accurate and beautiful casts from the leaves and other parts of plants. The leaf, as early as convenient after being gathered, is to be laid on a fine-grained, moist sand, in a perfectly natural position, with that surface uppermost which is to form the cast, and being banked up by sand in order that it may be perfectly supported. It is then, by means of a broad, camel-hair brush, to be covered over with a thin coating of wax and burgundy pitch, rendered fluid by heat. The leaf is now to be removed from the sand and dipped in cold water; the wax becomes hard, and likewise tough, to allow the leaf to be ripped off without altering its form. This being done, the wax mold is placed in moist sand, and banked up as the leaf itself was previously; it is then covered with plaster of Paris, made thin, due care being taken that the plaster be nicely pressed in all the interstices of the mold, by means of a camel-hair brush. As soon as the plaster has set, the warmth thus produced softens the wax, which, in consequence of the moisture of the plaster, is prevented from adhering to it, and, with a little dexterity, it may be rolled up, parting completely from the cast, without injuring it in the least. Casts obtained in the manner thus described are very perfect, possessing a high relief, and form excellent models, either for the draughtsman or for the molder for architectural ornaments.

MIGNONETTE.—In its native country this is a shrub, and not an annual, as with us. It should be sown in a light, sandy soil, as when it is grown in a stiff soil it loses its fragrance. When it is wished to obtain the tree mignonette, a vigorous plant of the common kind should be chosen from seedlings sown in April, and put into a pot by itself. All the summer the blossom buds should be taken off as fast as they appear; and, in the autumn, the lower side shoots should be taken off, so as to form a miniature tree. It should afterwards be transplanted into a larger pot, with fresh soil, formed of turf broken into small pieces, and sand. The plant should be kept in a green-house or warm room all winter, and regularly watered every day, and in the spring the stem will appear woody. The second summer, the same treatment should be observed, and the following spring it will have bark on its trunk, and be completely a shrub. It may now be suffered to flower; and its blossoms, which will be delightfully fragrant, will continue to be produced every summer for many years.—*Horticulturist*.

BANYAN TREE OF CEYLON.—The finest specimen of this noble tree in Ceylon, is at Mount Lavinia, seven miles distant from Colombo. Two roads run through its stems; some of its fibrous roots have been trained like the stays of a ship, so as not to intercept the road; while others hang half way down, with beautiful vistas of cocoanut palms seen through its numerous pillar-like stems. It throws a shadow, at noon, over four acres of ground.—*Dublin University Magazine*.

WATERING PLANTS.—Be careful in watering plants, not to leave the ground in the condition of baked clay, or if gravely, a sort of conglomerate. This is very likely, if the ground around the plant is not mulched. Watering, to be beneficial, must be thoroughly done, the ground made quite wet; a sprinkling is worse than useless.—*Ohio Farmer*.

Ladies' Department.

THE LONG AGO.

Oh a wonderful stream is the river Time,
As it flows thro' this realm of tears,
With a faultless rymth and a musical rhyme,
And a broader sweep and a surge sublime,
And blends with the ocean of years.

How the winters are drifting like flakes of snow,
And the summers like buds between,
And the year in the sheaf; so they come and go
On the river's breast, with its ebb and flow,
As it glides in the shadow and sheen.

There's a magical isle up the river Time,
Where the softest of airs are playing,
There's a cloudless sky and a tropical clime,
And a song as sweet as a vesper chime,
And the Junes with the roses are straying.

And the name of the isle is "The Long Ago,"
And we bury our treasures there;
There are brows of beauty and bosoms of snow,
They are heaps of dust—but *we loved them so*;
There are trinkets and tresses of hair.

There are fragments of airs that nobody sings,
And a part of an infant's prayer,
There's a lute unswept, and a harp without strings,
There are broken vows and pieces of rings,
And garments that *she* used to wear.

There are hands that are waved when the fairy shore
By the mirage is lifted in air,
And we sometimes hear through the turbulent roar,
Sweet voices we heard in the days of yore,
When the wind down the river is fair.

Oh, remembered for aye, be the blessed isle,
All the day of life, till night;
And when evening comes with its beautiful smile
And our eyes are closing to slumber awhile,
May that greenwood of soul be in sight.

PRESERVING CUT FLOWERS.—We hear constantly of new contrivances for preserving and reviving cut flowers, and of approved methods; but the tried plan of fresh water daily, with a slice cut from the stalks at each change of water, remains quite satisfactory still. Flower stems, however, should always be cut with a knife, and never with scissors, as the tubes will not draw up the water if they are bruised and lacerated and partly closed. Two or three drops of camphor in every ounce of milk-warm water, will often restore faded flowers, as it does a fainting person.

Valuable bouquets should be shaded during the night, say all the authorities; and they should be cut early in the morning before the dew is quite dried off them, and laid loosely on flat baskets or trays, to avoid crushing the stems. Large bundles of them tied lightly together will soon wither. Flowers may be sent hundreds of miles in tin cases, containing vials of water for the stems, and carefully covered. The German florists send their specimens to exhibitions in this manner.

CHEERFULNESS.—Those who benefit the world by their labors—who here remove a weed and there plant a flower—must be cheerful. Amidst the most adverse circumstances, there are still reasons for cheerfulness. So long as there are motives to gratitude, there is cause for cheerfulness.

SUSPEND YOUR FLOWERS.—Baskets of flowers suspended from hanging lamps, between the openings of curtains, over and under pictures, and before mirrors, shed an indescribable softness and grace around apartments that would otherwise be cold and stiff. As mirrors double (and sometimes mellow) everything reflected by them, they are often compared to water in a landscape; so flowers, creeping from wreaths of vines, twined round and falling over mirror frames, gratify the senses, like trailing branches and vines dipping into shaded water, and receding with the light breezes. But flowers, any how disposed, in plates, and vases and goblets, and pitchers, answer, perhaps, always the same purpose, of conducting the thoughts and fancies away into the border-land of reveries, and dreams, and shadows, if we for a little time abandon ourselves to their fairy influences.

THE BEST ICE CREAM.—Our best confectioners, in making their cream, use about eight ounces of loaf sugar to every quart of cream. To flavor four quarts of cream with vanilla, requires a bean and a half, boiled in a little milk. If with lemon, the outer rind of three lemons should be grated very fine, or six drops of oil of lemon to every four quarts of cream. Four quarts of good cream will make seven quarts of ice cream, if well beaten; while thin, milky cream will increase but little, and never become perfectly smooth. The ice should be fine, and put into the freezer with alternate layers of salt—say about two quarts of salt to an eight quart freezer—the ice and salt as they work down to be filled up.

PRESERVING EGGS.—The *Northwestern Farmer* has tried the following method of preserving eggs, and recommends it. It is simple and, we have no doubt, efficacious. You may try it with confidence:

"Take a sieve, and cover the bottom with eggs; then pour boiling water upon them, sufficient to give them a thorough wetting, permitting the water to pass off through the sieve. Take them out and dry them; then pack them in bran, the small end down; and your eggs will keep forever."

DRIED APPLES IMPROVE OTHER FRUITS.—A skilful cook can mix fruits so as to improve their natural flavor in a pie, or to save the free use of sugar. Dried apples, shred up fine with a pair of scissors and stewed, may be added to many kinds of fruit pie with decided improvement. They qualify and enrich the taste of currants and gooseberries, which are otherwise too sharp; and they add a pleasant acid to whortleberries and some other kinds that are (when used alone) apt to be too sweetish and insipid.—*Life Illustrated.*

TO RESTORE LINEN THAT HAS LONG BEEN STAINED.—Rub the stains on each side with wet brown soap; mix some starch to a thick paste with cold water, and spread it over the soaped places; then expose the linen to the air. If the stains do not disappear in three or four days, rub off the mixture and repeat the process with fresh soap and starch. Then dry it, wet it with cold water and wash it.—*Mrs. Hale.*

AN EXCELLENT RELISH FOR A CONVALESCENT.—Cut some codfish to bits the size of a pea, and boil it a minute in water to freshen it. Pour off all the water, and add some cream and a little pepper. Split and toast a Boston cracker, and put the above upon it. Milk and a little butter may be used instead of cream.

Editor's Table.

SALE OF COL. MORRIS' STOCK.—Last month we were unable to give only the first day's sale of L. G. MORRIS' stock. We now present a list of the entire sale. It will be useful for future reference. The proceeds of the entire sale were *nineteen thousand two hundred and seventy-two dollars and fifty cents*, and we believe everything passed off to the satisfaction of all concerned. It will be seen that the stock goes into twelve States, and to New Brunswick and Canada West.

SHORT HORN BULLS AND BULL CALVES.

1. Romeo, 6 years old, Reber & Kutz, Lancaster, Ohio,	\$600
2. Nissequag,* 2 years old, W. B. Hill, Bridgeport, Ct.,	225
3. Suffolk Hero,* yearling, Geo. Clark, Springfield, N. Y.	325
4. Zouave,* yearling, Wm. Kelley, Rhinebeck, N. Y.	300
5. Balcon, yearling, Mr. Van Ingham, N. J.	160
6. Charlemagne,* yearling, Capt. Joseph Hilton, New Scotland, N. Y.	245
7. Brawith's Boy,* yearling, Fr. Morris, Throg's Neck, N. Y.	340
8. Marmion,* 9 months, B. & C. S. Haines, Elizabeth, N. J.	500
9. Jacintha's Romeo, bred by Morris & Becar, John Hunter, Hunter's Island, N. Y.	400
10. Chester,* 8 months, David Brooks, Avon, N. Y.	300
11. Orpheus,* 6 months, J. B. Crippen, Coldwater, Mich.	675
12. Belmont,* 4 months, Amos F. Wood, Jefferson Co., N. Y.	375
13. Stanley,* 4 months, Benj. Whitlock, West Farms, N. Y.	210
14. Barrington,* 3 months, Joseph Orvis, Massena, N. Y.	150
15. King of Algiers,* 2 months, Robert Gerdon, Paris, C. W.	400
16. Balcliff,* 1 month, Joseph Orvis, Massena, N. Y.	110
	\$5,315

DEVON BULLS AND CALVES.

1. Frank Quarterly, 5 years old, Col. B. P. Johnson, Albany,	350
2. Wawayanda, yearling, W. B. Hill, Bridgeport, Ct.	150
3. Crusader, yearling, Geo. D. Parrish, Burlington, N. J.	105
4. Prince, yearling, Jacob Buckhout, Morrisania, N. Y.	150
5. Somerville, 8 months, L. H. Colby, Groton, N. Y.	155
6. Byron, 7 months, Francis Morris, Throg's Neck, N. Y.	250
7. Master Birthday, 4 months, Richard Peters, Atlanta, Ga.	340
	\$1,500

DEVON COWS AND HEIFERS.

1. Birthday, 12 years, imported, L. H. Colby, Groton,	450
2. Princess, 9 years, imported, Francis Morris, Throg's Neck,	340
3. Virtue, 8 years, imported, Francis Morris, Throg's Neck,	440
4. Ecith, 8 years, imported, Joseph Hilton, New Scotland,	300
Birthday 2d, 3 years, was set up at \$250—(not breeding) —was withdrawn by Col. Morris to fatten—\$300 was afterwards offered for her.	
5. Princess 2d, 3 years, Hon. John Wentworth, Chicago, Ill.	270
6. Birthday 3d, 3 years, Francis Morris, Throg's Neck,	325
7. Princess 3d, 2 years, A. G. Summer, Columbia, S. C.	250
8. Birthday 4th, 2 years, Francis Morris, Throg's Neck,	350
9. Princess 4th, yearling, John Wentworth, Chicago, Ill.	265
10. Rena, yearling, E. D. Hunter, Pelham, N. Y.	235
11. Rachel, 5 months, B. M. Whitlock, West Farms, N. Y.	175
12. Princess 5th, 6 weeks old, A. G. Summer,	150
13. Rouge, aged cow, Jos. Hilton, New Scotland, N. Y.	125
Fuchsia, 5 years—not breeding—was withdrawn to fatten.	
14. Ruth, 3 years, Joseph Hilton, New Scotland, N. Y.	225
15. Princess 6th, 4 weeks, A. B. Conger, Waldeberg, N. Y.	110
16. Birthday 6th, 2 weeks, Francis Morris,	150
	\$4,160

SOUTH DOWN RAMS.

1. Young York, 4 years, imported from Jonas Webb's flock, Samuel Thorne, Thornesdale, N. Y.	400
2. A two year old, L. F. Allen, Black Rock, N. Y.	25
<i>Yearlings, Sired by Young York.</i>	
3. John Bard, Tarrytown, N. Y.	140
4. S. O. Wilson, Norwalk, Ct.	175
5. E. Corning, Jr., Albany, N. Y.	125
6 and 7. Mr. Sheldon, N. J.	220
8. Gen. Cadwallader, Philadelphia, Pa.	105
9. J. B. Crippen, Coldwater, Mich.	98
10. William Summer, Columbia, S. C.	70
11. W. W. Glenn, Baltimore, Md.	65
12. Simeon Orr, Mississippi.	40
13. W. Firmstone, Easton, Pa.	30
14, 15, 16, 17. L. F. Allen, Black Rock, N. Y.	105
<i>Ram Lambs.</i>	
18. "Master Fordham," J. C. Taylor, Monmouth Co., N. J.	130
19. Simeon Orr, Mississippi.	30
20. Thomas P. Devereaux, Norfolk, Va.	45
22. J. C. Taylor, Monmouth Co., N. J.	40
23, 24, 25, 26, 27. John Hunter, Westchester Co., N. Y.	60
	\$1,885

* Bred by N. J. Becar.
† Bred by L. G. Morris.

SOUTH DOWN EWES.

1—5. Prize, Luger Ewes, imported, S. Thorne, Thornesdale, N. Y., at \$140, 150, 160, 140, 150.	740
6. Jonas Webb Ewe, imported, J. C. Taylor, Monmouth Co., N. J.	140
7—13. Jonas Webb Ewes, Samuel Thorne, \$160, 130, 180, 140, 180, 105, 105.	1000
14. Jonas Webb Ewe, J. C. Taylor,	80
15, 16. Jonas Webb Ewes, Col. A. G. Summer, \$100, 75.	175
17—21. Jonas Webb Ewes, E. Corning, Jr., Albany, N. Y., at \$110 each.	550
22, 23. Bred by Col. Morris, J. C. Taylor, at \$105 each.*	210
24. Samuel Thorne.	200
25, 26. Simeon Orr, at \$100 each.	250
27—37. J. C. Taylor—six at \$25, and five at \$20 each.	40
38, 39. Francis Morris, at \$20 each.	

Yearling Ewes.

40, 41. Gen. Cadwallader, Philadelphia, at \$55.	110
42, 43. Mr. Sheldon, Monmouth Co., N. J., at \$50.	100
44—49. J. B. Crippen, Coldwater, Mich., at \$50.	300
50—55. S. O. Wilson, Norwalk, Ct., at \$50.	300
56—59. Mr. Sheldon, N. J., at \$45.	180

Exc Lambs.

60, 61. J. H. Reid, Frederickton, N. B., at \$40.	80
62—74. Gen. Cadwallader, 2 at \$40, 8 at \$35, 3 at \$20.	420
75—77. J. C. Taylor, N. J., at \$25.	75
78. Thomas P. Devereaux, Norfolk, Va.	15
	\$5,075

BERKSHIRE SWINE.

Imported Boars—Master Burke, R. Peters, Atlanta, Ga., and Sir Robert, D. B. Haight, at \$35 each,	70
Young Boars—one to R. Peters and Josiah Hilton, at \$30; Mr. Wilmerding, Islip, L. I., at \$45; Simeon Orr and Mr. Hunter at \$20; L. F. Allen, \$15.	160
Imported Sows—one to Mr. Firmstone, with four pigs, \$75; one to Mr. Delaney, Va., \$80; Mr. Hunter, \$50.	205
Sows bred by Col. Morris—one to Samuel Thorne, \$65; Mr. Hunter, \$60; Thomas Ellison, \$45; Simeon Orr, \$30; Mr. Johnson, New York, \$25; two to Wm. Giles, York, \$20 and \$25; L. F. Allen, \$20; two to David Pugh, New Orleans at \$15; one (crippled) Mr. Butterworth, \$7.50; Jacob Buckhout, \$35; R. Peters, \$50.	412 50
Pairs of Pigs—J. G. Holbrook, \$27.50; Joseph Hilton \$24; A. B. Conger, \$22.50; Wm. Giles, \$21.	95 00
Three Sucking Pigs—A. B. Conger.	37 50
	\$930 00

ESSEX SWINE.

Imported Boar, "Fisher Hobbs," \$27 50, and two sows at \$75 and 72 50 to A. B. Conger; one sow to John Hunter, \$25; one to J. M. Miller, \$25, and one to N. J. Becar, \$20 00	
Pigs, 8 months old—two to George P. Nelson, Peekskill, at \$25 each; One to John Jay, Bedford, \$27 50.	77 50
	\$357 50

SUMMARY.

16 Short Horn Bulls and Bull Calves,	\$5,315 00
7 Devon Bulls and Bull Calves,	1,500 00
16 Devon Cows and Heifer Calves,	4,160 00
27 South Down Rams and Ram Lambs,	1,885 00
78 South-Down Ewes and Ewe Lambs,	5,075 00
Berkshire Swine,	980 00
Essex Swine,	357 50
	\$19,272 50

SALE OF SHORT HORNS.—The fourth periodical sale of surplus Short Horns belonging to HARVEY COMBE, of Cobham Park, Surrey, England, took place on the 20th of June. The sale consisted of twenty-nine lots, (7 bulls and bull calves, with 22 cows and heifers,) the whole of which realized an average of \$250 each. The highest priced animal was purchased for \$900, by a gentleman from Australia. There does not appear to have been any American breeders present.

MR. BINGHAM, of Ohio, writes to the *New York Times*: "This much you may put down as certain—every farmer hereabouts who selected his seed from the field last fall and tied it up by the husks in the old-fashioned way, has secured a good sprouting at the first planting this spring."

FRUIT PROSPECTS.—The *Rural Intelligencer*, published at Augusta, Maine, says: "The prospects for fruit are good. Our trees did not suffer here as they did West last winter from the cold, but have put forth vigorously and abundantly."

FOURTH EXHIBITION OF THE U. S. AG. SOCIETY.—The Fourth National Exhibition of the United States Agricultural Society will be held in the city of Philadelphia October 7th to 11th. We give a list of the Premiums offered, and which amount to *twelve thousand dollars*!

Sweepstake Premium.—For the Best Herd, (a bull and four cows, or heifers of any age,) of any breed, belonging to one person, a Sweepstake Premium of \$200.

Herd Premiums.—For the Best Durham bull and four cows, or heifers of any age, belonging to one person, \$100; next best, Diploma.

For the best four cows or heifers (not full blood,) belonging to any one person, \$50; next best, diploma.

Same for Devons, Ayrshires, Herefords, and Alderneys (Jerseys.)

Durhams.—Bulls, three years old and upwards, 1st premium, \$100; 2d, \$50. Two years old, 1st, \$50; 2d, \$25. One year old, 1st, \$20; 2d, \$10. Cows and heifers, same premiums as for bulls.

Devons, Ayrshires, Herefords, and Jerseys, same as Durhams.

Grade or Native Cows.—Three years old and upwards, 1st premium, \$50; 2d, \$25. Two years old and under three years, 1st premium, \$25; 2d, \$15. One year old and under two years, 1st premium, \$10; 2d, \$5.

Milch Cows.—Five years old and over, three premiums, \$100, 50, and 25. Three years old and under five, three premiums, \$50, 25, 15.

Working Oxen.—Four years old, and upwards, 1st premium, \$100; 2d, 75; 3d, 50; 4th, 25. Two years old and under four, 1st premium, \$50; 2d, 25; 3d, 15.

Town Teams.—For the best team, not less than ten yoke of oxen from any County, \$100; 2d, 50; 3d, 25.

Fat Cattle.—Fat Ballock, 1st premium, \$50; 2d, 30; Fat Cow, 1st premium, \$30; 2d, 20.

Thorough-bred Stallions and Mares.—Stallions four years old and upwards, 1st premium, \$200; 2d, 100; 3d, 50. Mares four years old and upwards, 1st premium, \$150; 2d, 75; 3d, \$50.

Heavy Draft Stallions and Mares.—Stallions three years old and upwards, 1st premium, \$150; 2d, 75; 3d, 25. Mares three years old and upwards, 1st premium, \$100; 2d, 50; 3d, 25.

Stallions of all Work.—Four years old and upwards, \$200, 100, 50. Three years old and under four, three premiums, \$150, 75, 50. Two years old and under three, 3 premiums, \$50, 25, 15. One year old and under two, 2 premiums, \$30, 20.

Breeding Mares and Fillies.—Mares four years old and upwards, three premiums, \$150, 100, 50. Fillies three years old, 2 premiums, \$75, 50. Fillies two years old, 2 premiums, \$50, 20. Fillies one year old and under two, 2 premiums, \$30, 20.

Matched Horses.—Four premiums, \$100, 75, 50, 25.

Fancy Matched Horses.—Two premiums, \$75, 50.

Ponies.—Matched, \$25; single, 20.

Family Horses.—Single, and for general utility, seven premiums, \$100, 80, 60, 50, 40, 30, 20.

Family Horses, for speed.—The speed of horses under this division, that have never trotted for money, will be tested on the track. Exhibitors to drive, and to be persons who have never driven for money. Three premiums, \$200, 100, 50.

Untrained Horses, single.—Speed to be tested on the track, in harness. Competition open to all horses that have never trotted for money. Two premiums, \$200, 100.

Trotting Horses.—A grand trial of speed, in harness, for all trotting horses. Two premiums, \$200, 100.

Trotting Stallions.—Grand trials of speed. For stallions 6 years of age and over, 1st premium, \$200; 2d, 100. For stallions under 6 years of age, 1st, \$150; 2d, 75.

Draft Horses.—Matched, three premiums, \$100, 50, 25. Single, two premiums, \$50, 25.

Mules.—Best pair two years old and over, three premiums, \$50, 25, 15.

Long Woolled Sheep.—Bucks two years old and over, two premiums, \$30, 15; under two years, two premiums, \$20, 10. Ewes, not less than five in number, two years old and over, two premiums, \$25, 15; under two years, two premiums, \$20, 10.

South Downs, French Merinoes, Silesian, Spanish and Saxon, same premiums as for Long Wools.

Swine, large breed, (such as Chester, Berkshire, Hampshire, Leicester, and their crosses.)—Boars two years old and upwards, 1st premium, \$25; 2d, 15. One year old and upwards, 1st premium, \$20; 2d, 10. Sows, same premium as for boars.

Small breed, (such as Neapolitan, Suffolk, improved China, Chinese, Mocha, Essex, and their crosses,) same as Large breed.

Swine of other breeds, same premium as large breed.

Pigs.—Not less than six in a litter, six months old and under ten, 1st premium, \$15; 2d, 10.

Poultry.—For the best collection of different varieties of pure bred fowls, owned by the exhibitor, 3 premiums, \$25, 15 and 10.

Larger Asiatic Fowls.—Red or buff Shanghae, best trio, two premiums, \$5 and 3; same for black and white or gray Shanghae.

Other Gallinaceous Fowls.—Best trio of Black Spanish, White and Gray or Speckled Dorking, Silver and Golden Pencilled Hamburgs, Black Hamburgs, Dominique Dunghill, White Crested, Golden and Silver Black Polish, Game and Bantams, each, 1st premium, \$5; 2d, 3.

Turkies.—Best pair Wild and Domestic, each, 1st premium \$5; 2d, 3.

Guinea Fowls.—Best pair, \$5; 2d, 3.

Ducks.—Best pair or trio of Aylesbury, Rouen, Java, Topknot, and Common, each, 1st premium, \$5; 2d, 3.

Geese.—Best pair Bremen, Hong Kong or African, Toulouse, Wild, and White or Colored Swan, each, 1st premium \$5; 2d, 3.

Swans.—Best pair, \$5; 2d, 3.

Agricultural Implements.—Best collection, manufactured by exhibitor, \$100; 2d, 75; 3d, 50. Best and largest collection, without reference to the manufacturer, \$100; 2d best, 50; 3d, 25.

Liberal premiums are offered for Field Crops, Fruits, Wines, &c., to be awarded at the Annual Winter Meeting, but specimens of which (where practicable,) should be shown at the Exhibition.

One thousand dollars have been set apart for Discretionary Premiums.

PROVINCIAL FAIR OF CANADA WEST.—We are glad to learn that the great Provincial Exhibition which is to take place at Kingston Sept. 23—26, bids fair to be one of unusual interest. The premium list is liberal—competition open to all Canada. There are premiums, in addition to diplomas, for "Foreign Stock," amounting to \$340; and for "Foreign Agricultural Implements," \$130. Kingston is easy of access from this side; and we trust that our stock breeders and implement makers will make an effort to exhibit largely.

STATE AND COUNTY SHOWS FOR 1856.

New-Jersey,	Newark,	Sept. 9—12.
Vermont,	Burlington,	Sept. 9 to 12.
Canada East,	Three Rivers,	Sept. 16—18.
Virginia,	Wheeling Island,	Sept. 17—19.
Ohio,	Cleveland,	Sept. 23—26.
Canada West,	Kingston,	Sept. 23—26.
Am. Pom. Society,	Rochester,	Sept. 24—30.
Michigan,	Detroit,	Sept. 30—Oct. 1, 2, 3
New York,	Watertown,	Sept. 30—Oct. 1, 2, 3
Illinois,	Alton,	Sept. 30—Oct. 1, 2, 3
Pennsylvania,	Pittsburgh,	Sept. 30 to Oct. 2.
Kentucky,	Paris,	Sept. 30 to Oct. 5.
Virginia,	Richmond,	Oct. 28 to Nov. 1.
Tennessee,	Nashville,	Oct. 9—14.
National Ag. Show,	Philadelphia,	Oct. 7—10.
Connecticut,	New Haven,	Oct. 7—10.
Maryland,	Baltimore,	Oct. 21—24.
California,	San Jose,	Oct. 7, 8, 9.
Wisconsin,	Milwaukee,	Oct. 8 to 10.
New Hampshire		Oct. 8, 9, 10.
Iowa,	Muscatine,	Oct. 8—10.
North Carolina,	Raleigh,	Oct. 14—17.
Georgia,	Atlanta,	Oct. 20—25.
Indiana,	Indianapolis,	Oct. 20—25.
Maine,		Oct. 28—30.
Alabama,	Montgomery,	Nov. 11—14.
South Carolina,	Columbia,	Nov. 11—14.

NEW YORK COUNTY AGRICULTURAL FAIRS.

Albany, Albany,	Sept. 23, 24, 25.
Cattaraugus, Little Valley,	Sept. 17, 18, 19.
Cayuga,	Sept. 17, 18, 19.
Delaware, Walton,	Sept. 24, 25.
Essex, Elizabethtown,	Sept. 18, 19.
Franklin, Malone,	Sept. 24, 25, 26.
Jefferson, Watertown,	Sept. 17, 18.
Monroe, Rochester,	Sept. 24, 25, 26.
Madison, Munnsville,	Sept. 8, 9, 10.
Onondaga, Syracuse,	Sept. 10, 11, 12.
Orleans, Albion,	Sept. 25, 26.
Oneida, Rome,	Sept. 23, 24, 25.
Ontario, Geneva,	Sept. 24, 25, 26.
Queens,	Sept. 25.
Oswego, Mexico.	Oct. 17, 18.
Rockland, New City,	Oct. 8, 9.
Rensselaer, Lansingburgh,	Sept. 16, 17, 18.
Schuyler, Watkins,	Sept. 8, 9.
Seneca, Waterloo,	Oct. 8, 9, 10.
St. Lawrence, Canton,	Sept. 18, 19.
Tioga, Owego,	Sept. 24, 25.
Washington, Union Village,	Sept. 10, 18.
Wayne, Lyons,	Sept. 23, 24, 25.

THE WEATHER AND THE CROPS.—Up to this date (July 29), the weather has been unusually fine for haying and harvesting—a little too dry, perhaps, for oats and potatoes, and for badly cultivated corn. The wheat in this section is all harvested in excellent condition. We have visited a number of farms, and find the injuries from the midge much less than we expected. At the same time, we are credibly informed, that several crops have been offered to any one who would harvest them and leave the straw on the farm. We have ourselves seen crops that were not worth harvesting. But still, where the land has been properly cultivated, and sown with good seed, the crop is fair, and, in some places, quite heavy. The midge has affected poor crops much more than good crops. An observing farmer told us that he had two fields of wheat; one would have yielded ten bushels per acre had it not been affected by the midge, the other thirty bushels. Four-fifths of the poor crop was destroyed, and only about an eighth of the good crop.

Barley has been unusually good.

Potatoes look well, notwithstanding the dry weather.

Oats are perhaps not quite an average—certainly far lighter than they were last year. Corn, judging from a hasty ride through the central southern counties of this

State, and parts of New Jersey and Pennsylvania, is very late, but is progressing finely. In New Jersey, especially, the corn is very luxuriant, owing to frequent showers and hot weather.

Hay on old meadows is light; on newly seeded land quite an average.

The peach crop in Western New York and in New Jersey will be light, and, as there are none in the West, peaches will command high prices.

The apple crop in this section is light; the trees bore too much last year.

GENESEE FARMER PREMIUMS.—During the past month, we have sent (postage paid) a *Rural Annual and Horticultural Directory* to all our friends who obtained for us a club of eight subscribers to the GENESEE FARMER. Also, to those who have sent us sixteen subscribers. In addition to this, those who have sent us sixteen subscribers, are entitled to an extra copy of the GENESEE FARMER, which, if not already sent, will be forwarded to any address they may desire. Those who have sent larger clubs, and are entitled to several *Rural Annuals*, or extra copies of the GENESEE FARMER, or books, will please state which they prefer, and we will forward immediately. We prefer to have our friends designate the books they wish; but if left to us, we will endeavor to send such as will prove interesting and useful. We have recently purchased more than two hundred dollars worth of books for this purpose, and have as complete an assortment of agricultural books as is to be found in the country. To save expense to our friends, we prepay the postage on all books.

The premiums for the largest number of subscribers are awarded as follows:

JAMES LITTLE, Seneca, C. W., for 236 subscribers, first premium of \$50.

C. MCGLAISHAM, Corunna, C W., for 93 subscribers, second premium of \$30.

I. W. BRIGGS, West Macedon, N. Y., for 72 subscribers, third premium, \$10.

If any of our friends fail to receive the *Rural Annual*, it will be immediately resent, if they will notify us of the fact.

ILLINOIS STATE FAIR.—We have received the list of premiums for the Fourth Annual Fair of the Illinois State Agricultural Society, to be held at Alton, Sept. 30, and Oct. 1, 2 and 3. Over \$2,000 are offered as premiums. We are glad to see such liberal premiums offered (\$40 and diploma) for designs for farm cottages, farm houses, dairy, ice, poultry, and smoke houses, &c., &c. Also, for essays on such subjects as rearing and managing cattle on the prairies; on the rearing and management of sheep, cattle, mules, swine, &c.; on the culture of forest, fruit and ornamental trees on the prairies, &c. Also, premium for the best grove of cultivated timber on the prairie; best and largest amount of well-set and cultivated hedge on one farm, &c., &c.

INQUIRIES.—When is the best time for pruning fruit trees? I have noticed that apple trees pruned at a certain season, would continue to bleed at different periods for a long time after pruning. Wherever the sap hit, it would turn black. How is this to be avoided? Which is the best to mix with swamp muck, ashes or lime? A. J. GRIPPIN.

—Corinth.

SEVERAL Book Notices and Answers to Inquiries, have been crowded out.

DRILLING WHEAT, &c.—As I have just commenced farming, and knowing the merits of information received through the columns of your valuable paper, and also knowing your willingness to benefit your subscribers by answering questions, induces me to ask a few. First, will it pay to drill wheat in the prairie soil of Illinois, and what are its advantages, if any, over broadcast? Also, how much seed should be used by drill per acre, and what time in the fall should winter varieties be sown? And another is, what time should it be cut to be profitable both to the seller and the buyer?

An answer to the above in your paper would benefit many in this section. F. E. WILLOUGHBY—Linnville, Ill.

Will some of our correspondents give their views on these subjects. We have had no experience in drilling wheat on prairie soils, and should prefer hearing from those who have.

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

FOR SALE.

A FARM near Kalamazoo, Michigan. For particulars address A. SINTENICH, Box 1185 Post Office, Rochester, N. Y.
August 1.—1t*

LAWTON BLACKBERRY.

DESCRIPTIVE CIRCULARS, with terms of sale, and ample directions for cultivation will be forwarded to applicants.

Address WILLIAM LAWTON,
July 1.—4t. No. 54 Wall street, New York.

MANSFIELD & WHITING'S IMPROVED CLOVER SEED HULLING AND CLEANING MACHINES.

THESE Machines have been awarded the first Premiums at three successive Ohio State Fairs and the Michigan State Fair. Also at the World's Fair in New York in 1853, and never failed to take the first Premium wherever exhibited.

Warranted to hull and clean from 20 to 50 bushels per day. Prices—No. 1, \$100; No. 2, \$95; No. 3, \$90. To insure a machine order early. Manufactured and for sale by

MANSFIELD & WHITING,
August 1.—3t* Ashland, Ohio.

IMPORTANT TO FARMERS!

STACK COVERS OF COTTON DUCK.

THE following sizes constantly on hand, or any required size made to order: 15 by 20 feet, 20 by 25 feet, 25 by 30 feet. First quality, 48 cents per square yard; second quality, 36 cents per square yard, furnished with cords all ready for use.

Covers of either quality will most effectually protect the stack in the heaviest rain storms, rendering it secure as under the barn roof.

The Subscriber has a process he will warrant to preserve the duck from mildew, without in the least discoloring or injuring the material, applied, when so ordered, at four cents extra per square yard.

Orders through the Post Office will meet with prompt attention. E. C. WILLIAMS, Sail and Tent Maker,
August 1.—1t. 12 Buffalo street, Rochester, N. Y.

TO AGRICULTURAL & HORTICULTURAL SOCIETIES.

WE would particularly invite the attention of those Societies who are about to make up their PREMIUM LISTS, to our large collection of Agricultural Books, which are peculiarly adapted for Premiums.

The awarding of Agricultural Books in the place of small Money Premiums has been extensively adopted, and has given the highest satisfaction.

ADVANTAGES OF THIS PLAN.

1. It promotes the dissemination of much needed information among farmers.
2. It combines the advantages of a Diploma with a Premium of intrinsic value.
3. It substitutes a permanent and expressive Token of Honor for the pittance which is frequently humiliating to the recipient.
4. It avoids the fostering of a mercenary spirit among competitors, and better comports with the dignity of an honorable emulation between friends and neighbors.

We will be happy to furnish to applicants a Catalogue of those of our Publications which we consider most appropriate for the use of Agricultural Societies for Premiums, on which a liberal discount will be given.

C. M. SAXTON & CO.,
Agricultural Book Publishers,
140 Fulton street, New York.

August 1.—2t.

TO NURSERYMEN AND DEALERS IN TREES.

THE Subscribers beg leave to announce that their wholesale priced Catalogue of Fruit and Ornamental Trees, Shrubs, Roses, &c., for 1856, is now ready, and will be sent free to all applicants who enclose a stamp. ELLWANGER & BARRY,
Aug. 1.—1t. Mt. Hope Nurseries, Rochester, N. Y.

A CHANCE TO MAKE MONEY!

PROFITABLE AND HONORABLE EMPLOYMENT!

THE Subscriber is desirous of having an agent in each county and town of the Union. A capital of from \$5 to \$10 only will be required, and anything like an efficient, energetic man can make from three to five dollars per day; some Agents are realizing twice that sum. Every information will be given by addressing, with a stamp to pay return letter, WM. A. KINSLER,
Aug. 1.—1t* Box 1228 Philadelphia, Pa., Post Office.

PRICES OF FERTILIZERS FOR SUMMER, 1856.

PERUVIAN GUANO, No. 1, with Government brand and weight	on each bag,.....per ton of 2,000 lbs.	\$63.00
Columbian Guano,.....	" "	\$36.00 to 40.00
Superphosphate of Lime,.....	" "	45.00
Bone Dust, Ground,.....	per bbl.	2.50
" Turnings,.....	"	2.37 to 2.60
" Sawings or Meal,.....	"	3.00
" Mixed fine ground,.....	"	2.75 to 3.00
Plaster of Paris,.....	"	1.00 to 1.25

The second quality of Peruvian Guano will have figure 2 under the weight mark. A. LONGETT,
July 1. 34 Cliff street, New York.

FAIRBANKS' HAY SCALES.

MORE than four thousand of these convenient and durable Scales have been put up by us in different parts of the United States and the British Provinces.

Several Gold and Silver Medals have been awarded to us by the various Agricultural Societies throughout the country, for

THE BEST HAY AND CATTLE SCALES.

And we have certificates without number from officers of city and village corporations, manufacturing establishments, and private individuals, who have our scales in use, testifying to their superior excellence.

To be in season for the coming hay crop, orders must be given early.

Scales set in any part of the United States or the Canadas by experienced workmen. Address by mail or otherwise,

FAIRBANKS & CO.,
July 1.—2t* No. 186 Broadway, New York.

IMPORTANT BOOKS FOR FARMERS.

ALLEN'S AMERICAN FARM BOOK. The American Farm Book; or, a Compend of American Agriculture, being a practical Treatise on Soils, Manures, Draining, Irrigation, Grasses, Grain, Roots, Fruits, Cotton, Tobacco, Sugar Cane, Rice, and every Staple product of the United States; with the best methods of planting, cultivating and preparation for market. Illustrated by more than 100 engravings. By R. L. Allen. Cloth, \$1.

GUENON ON MILCH COWS; A Treatise on Milch Cows, whereby the Quality and Quantity of Milk which any Cow will give may be accurately determined by observing Natural Marks or External Indications alone; the length of time she will continue to give Milk, &c., &c. Illustrated with numerous engravings. Price, neatly done up in paper covers, 37½ cents; bound in cloth, 60 cents.

THE STABLE BOOK; A Treatise on the Management of Horses, in relation to Stabling, Grooming, Feeding, Watering, Working, Construction of Stables, Ventilation, Appendages of Stables, Management of the Feet, and Management of Diseased and Defective Horses. By John Stewart, Veterinary Surgeon. With Notes and additions adapting it to American Food and Climate. By A. B. Allen. \$1.

ALLEN'S DISEASES OF DOMESTIC ANIMALS; Being a History and Description of the Horse, Mule, Cattle, Sheep, Swine, Poultry, and Farm Dogs, with directions for their Management, Breeding, Crossing, Rearing, Feeding, and Preparation for a profitable Market; also their Diseases and Remedies. By R. L. Allen. Cloth, 75 cents.

JOHNSTON'S ELEMENTS OF AGRICULTURAL CHEMISTRY and Geology. With a complete Analytical and Alphabetical Index, and an American Preface. By Hon. Simon Brown, Editor of the "New England Farmer." Price \$1.

BROWNE'S FIELD BOOK OF MANURES; Or, American Muck Book. Treating of the Nature, Properties, Sources, History and Operations of all the Principal Fertilizers and Manures in Common Use, with Specific Directions for their Preservation, and Application to the Soil and Crops. By D. Jay Browne. \$1.25.

SENT FREE OF POSTAGE ON RECEIPT OF PRICE.

Our Catalogue, comprising eighty agricultural works will be sent to any address.

C. M. SAXTON & CO., Agricultural Book Publishers,
Aug. 1.—1t. 140 Fulton street, New York.

COLUMBIAN GUANO.—TRY IT.

From the June number of the American Farmer, published in Baltimore.

We call attention to the advertisement of the Philadelphia Guano Company, who have recently made a contract with the republic of Venezuela, by which they are authorized for a series of years, to export the guano from all the islands belonging to that government. As those islands are located in the Caribbean Sea, at a short distance—about 1900 miles—from our own shores, the cost of freight is comparatively trifling, and the article can therefore be furnished at very low rates, when compared with the price demanded for Peruvian Guano.

The guano islands embraced in the contract of this Company are numerous, and the character of the deposits to some extent varies in the proportion of organic matter, ammonia, and the phosphates they contain. They are all, however, as compared with the Peruvian, much richer in the phosphates, and less abundantly supplied with organic matter and ammonia. At present, we understand the Company design importing only that quality designated by the Inspector, Mr. Reese, as Columbian Guano, which is by far the richest phosphatic guano ever yet discovered, containing more than three times the amount of phosphates found in the Peruvian, and much more than is found in bone dust and Mexican Guano—Peruvian Guano rarely contains more than 15 to 30 per cent of the bone phosphate of lime, and the different brands of the Mexican Guano, as inspected at Baltimore, contain from 35 to 67 per cent, while the Guano marked by the State Inspector, COLUMBIAN, letter A, contains phosphoric acid equal to from 80 to 90 per cent of bone phosphate of lime, and the Guano marked COLUMBIAN, letter B, contains phosphoric acid equal to from 70 to 80 per cent of bone phosphate of lime.

Without entering into the discussion as to the comparative value of ammoniacal and phosphatic manures, no one pretends to doubt the real value of the latter, while some of the highest authorities among men of science, attribute the chief value of all guanos to the phosphates they contain. Be this as it may, experience seems to have determined that the phosphatic manures are of more permanent duration, and that where they are less efficient as to the crop of wheat, they endure longer, and are more effective in the after growth of clover and grasses. Those of course who adopt the views of Prof. Liebig, and other high authorities, as to the value of mineral manures, will readily admit the great superiority of Columbian Guano over other varieties, it being, as stated in the U. S. Patent Office report for 1854, "by far the richest source of phosphoric acid for the farmer yet discovered," and in the words of Dr. Stewart, the "*Ne Plus Ultra* of Phosphatic Guanos."

The virtues of bone dust as a permanent fertilizer are well understood, and the ordinary Mexican Guanos have been extensively experimented with, and their value acknowledged. Whatever merits these manures possess, must exist in a high degree in Columbian Guano, on account of its superior richness in the leading fertilizing principle—the phosphates—common to them all.

The difficulty made as to these manures, that they are not soluble, and the consequent doubts and apprehensions of farmers who are convinced of the value of their main constituent, as to their availability in the production of crops, is worthy of consideration.

1. In the use of these manures it would seem that ultimately, at any rate, if not immediately, the farmer must reap the benefit of their application. They furnish an indispensable ingredient of fertility, and necessary constituent of plants. If it is not in condition to furnish the food of plants at once, it is only held in reserve until brought under the influence of solvents, which sooner or later are sure to make it available. A very observant farmer has said to us within a few days, that he will defy any one to find a piece of bone in his soil, after the second or third year from the time of application. He uses no acid or solvent, and does not care to have the bones ground fine. And let it be remarked that while a quick return is more immediately profitable, a slower but certain return is much safer for the land.

2. The solubility of Phosphates greatly depends upon the mode in which they are prepared. From good bones, finely ground, a beneficial effect is almost always immediately derived. From Mexican Guano some benefit seems always to accrue during the first year after its application, as well as on succeeding crops.

3. Whatever justice or force there may be in the objection of insolubility, as applied to bone dust and Mexican Guano, does not rest, it is contended, against the Columbian Guano. It is reduced to a fine powder by grinding, and is thus prepared perfectly for the action of any solvent which may exist in, or may find its way to the soil. But independent of this, it is asserted that it contains so large an excess of free phosphoric acid, that a sufficient portion for the use of plants during the first year after its application is rendered immediately soluble. This is questioned, and we give the authorities.

Dr. Stewart in his analysis states the per centage of phosphate of lime to be 77.43, and of free phosphoric acid 5.23, which latter substance, he states, would produce to each ton of 2,000 lbs., "215 lbs. of *acut soluble* superphosphates, besides 1,550 lbs. of the common bone phosphates of other phosphatic guanos.

Dr. James R. Chilton, of New York, gives as the result of an analysis of a specimen recently submitted to him, 74.87 per cent of neutral phosphate of Lime, with a little phosphate of magnesia, and 13.14 per cent of *soluble phosphate of lime*, with 6.63 of organic matter with ammonia.

Dr. Hayes, of Boston, states that "it is in fact a kind of natural *bi phosphate of lime*, by far the most valuable of any of those compounds yet discovered, when compared weight with weight."

Professor Jas. C. Booth of Philadelphia, in the specimen he analyzed found 74.35 of phosphate of lime and magnesia, and 9.60 of free Phosphoric acid, and he pronounces it "a remarkable substance containing naturally 84 per cent of dry superphosphate of lime." He also states that he would "prefer it greatly to any artificial superphosphate, for any purpose to which the latter is applied."

On the other hand Dr. Piggot in his communication published in our No. of September last says, "strangely enough, the very erroneous opinion was quite commonly entertained, that the phosphoric acid in this hard enamelled rock, is combined with lime in proportion to form a superphosphate," and after stating the results of his analysis, remarks: "The most cursory inspection of these results, is sufficient to convince any one at all acquainted with Chemistry, that the lime cannot be united with phosphoric acid, to form a superphosphate."

The analysis of Dr. Bickell, published some time after, if we mistake not, sustained the opinion of Dr. Piggot.

We confess that taking an "outside" view of the matter, we are at a loss to understand how a soluble phosphate could accumulate in a region where, if accounts be true, "it never rains but it pours."

It is worthy of remark, however, in passing, that the highest authorities should be at variance on a question of fact which it seems to us there should be no difficulty in determining with absolute certainty.

We have thus set before our readers fairly this article of Columbian Guano, in its aspect as presented chemically. We do not on such a presentation only, however promising, recommend to farmers, an investment in this fertilizer. We have some practical results which give us strong hopes that it has very high value.

One farmer who is making several experiments instituted last fall, upon wheat, and whose judgment we entirely rely upon, says that these experiments thus far indicate a decided superiority of the Columbian over Peruvian Guano, upon soil where the Peruvian has been used with the usual success.

We hear of other cases of its apparent success, which leads us to anticipate that the best opinions of those who recommend it may be realized. And we would say to farmers now, that it would be very well worth their while to make trial of it on a small scale at once, and carefully. A few hundred pounds are sufficient for experiment, and will enable them to determine whether it will be likely to pay on the wheat crop in the Fall. Try it upon oats at the rate of 300 lbs. per acre, and upon other crops at a somewhat larger rate.

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I also have a Farm of 100 acres adjoining the county seat, well improved, good house of brick, orchards, well watered, and all the necessary outbuildings. The Menassas Gap Railroad passes through the village, and also a turnpike road to Washington and Alexandria, which are distant about 15 miles. I have also another Farm of 100 acres, within three-fourths of a mile of the county seat, one half of which is in timber, and the other in cultivation. I am building a house on this, which will be finished by fall. I have also one other Farm of 120 acres, lying about four miles from the county seat, in cultivation by a Northern man, who has resided on it three years.

I will sell any or all of these Lands, &c., on reasonable terms. Persons desiring further information, can address the undersigned at Fairfax Courthouse, Va., who will give information, if desired, relative to his own or any other lands in this or the adjoining counties.

May 1, 1856—*tf.*

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JOSEPH HARRIS,

November, 1855.

Rochester, New York.

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CULTIVATION OF WINTER WHEAT.

No soil can produce wheat unless it contains, in an available condition, all the inorganic elements of plants. It does not follow, however, that if these are present in sufficient quantity, the soil will produce good wheat. Indian corn is composed of precisely the same elements as wheat, and the proportions are nearly identical. Yet we have much land that produces excellent corn, that is not adapted to wheat culture. We know so little in regard to the manurial requirements of Indian corn, that we can offer no chemical explanations of this fact. We know that wheat requires in the soil, a large quantity of ammonia, for the production of a good crop; and nearly every well established fact in regard to corn culture goes to show that the same is true of this crop. We come to the conclusion therefore, that while it is probable there are some chemical causes why one soil is better adapted to wheat culture than another, yet that, so far as we can see at present, the difference is owing principally to the mechanical conditions and texture of the soil.

Wheat delights in a compact, calcareous loam, rather clayey than sandy. We have heard farmers say that they preferred a sandy to a clayey soil for wheat, but this opinion arises from the fact that most of our clay land needs underdraining. A calcareous clay that is underdrained, or naturally dry, is better for wheat than a sandy soil under similar conditions. Why it is, we know in part;—the double silicate of alumina and soda parts with its soda and absorbs ammonia from rain water, the atmosphere, and from any other bodies containing it. Sand does not possess this property; and herein lies one reason why a clay soil is better for wheat than a sandy one. Clays, too, have the power of absorbing and retaining moisture to a much greater extent than sand. But we can overcome both these drawbacks by an extensive cultivation of clover, peas, turnips, &c., on the sandy soils. These plants absorb ammonia from rain water and the atmosphere, and thus accomplish the same end as the double silicate of alumina and soda, while the carbonaceous products arising from their decomposition in the soil give the soil an increased capacity for absorbing and retaining moisture. These considerations lead to the conclusion that the farmer has the means in his power to make a sandy soil as good for wheat-growing purposes as a clayey one, in every respect, so far as we can see to the contrary with the little light we possess on this subject, except in its mechanical condition.

As we have said, a wheat soil must be compact. If it is not so naturally, mechanical means should be employed to compress it. Treading light wheat land in the fall or early in the spring with sheep, is frequently beneficial, and a good heavy roller is decidedly advantageous. Crosskill's Clod Crusher, a cut of which will be found on another page, compressing land, as it does, similarly to the treading of sheep, is found very useful on sandy wheat fields in England. We are earnest advocates of deep plowing and thorough pulverization of the soil, but these must not be carried to excess in wheat culture. It is easy to make the light land too fine and loose for wheat. When wheat is sown on a clover sod after one plowing, it is not advisable to plow it too deep; if the sod is all covered and a good "seed bed" obtained that is enough. Subsoil and plow deep for corn and root crops, and if you summer fallow, for wheat also, but if wheat is sown at one furrow on a clover sod turned under immediately before seeding, we should seldom go more than six inches deep. The best large field of wheat we ever saw in England, was on a calcareous loam that had been two years in red clover, grazed with sheep, which, a considerable portion of the time, were allowed a lb. of oil-cake a day. It was plowed about three inches deep, just before sowing, and a bushel and a half of seed drilled in per acre, one foot apart in the drills. The yield was 55 bushels per acre.

The question of thick or thin sowing, so fiercely agitated in England a few years ago, by DAVIS, MACH, HUXTABLE, and other ultra agricultural reformers, is now pretty much decided. A peck of seed to the acre is amply sufficient, as they contended, if it all grows, and the crop escapes wire-worms, winter-kill, &c.; but it is found that those who practice such extreme thin seeding always lose more from these causes than those who sow thicker, and that these losses more than counterbalance the gain from saving a bushel or two of seed per acre. Taking into consideration the many pests that infest our wheat crop, we are inclined to think, that, if anything, we sow too thin. Two bushels per acre is none too much when sown broadcast, or a bushel and three pecks when sown by the drill. The majority of English farmers sow three bushels per acre, and we know some of them who sow $3\frac{1}{2}$ and even 4 bushels per acre. This would be greatly too much in our climate; but we must not err in the other direction.

The best artificial fertilizer for wheat is unquestionably Peruvian guano. The lumps of the guano should first be sifted out and crushed. It can then be mixed with muck in equal parts, or sown alone,

broadcast, at the rate of from 200 lbs. to 400 lbs. per acre. It should be harrowed or cultivated in, thoroughly incorporating it with the soil, before sowing the seed. This we prefer; on very sandy soil, it might be advisable to sow 100 lbs. per acre in the fall after the wheat is sown, and another 100 lbs. early in the spring. On heavy land it should always be sown in the fall, and the longer it is incorporated with the soil before the seed is sown the better. The earth is a stomach in which food for plants is digested and prepared; and time should be allowed for it to accomplish this before the plants require nourishment. On light soils, however, there is danger of its leaching if sown too early; and there is less necessity for doing so, as from the admission of air, light and heat, chemical changes take place much more speedily in sandy soils than in those of a close texture.

Plaster is frequently recommended for wheat, and there are many instances recorded where it has proved very beneficial, but the mass of testimony is against it. In the wheat growing districts of this State, it is frequently sown on wheat in the fall; but it is rather with an eye to its effect on the clover, to be sown the following spring, than to any action it has on the wheat. Many will object to this, and contend that plaster does good on wheat. To this we would say, that if plaster acts well as a manure for wheat on your land, by all means use it. When it sells from \$2 to \$5 per ton, as in Western New York, it is the cheapest of fertilizers on all soils where experience shows it to be beneficial. At present, experience—or what is simply a short cut to experience, experiment—is the only guide in this matter. The same may be said in regard to salt as a manure. Many instances are recorded where it has had a magical effect. Some such have come under our observation. As a general rule, however, salt is of little benefit on wheat. Prof. WAX suggests that salt acts by increasing the solubility of the silicate of alumina and ammonia. Water containing salt will take up a very much larger quantity of this salt than pure or ordinary rain water. He has expressed the opinion that the silica which forms the stiffening of the straw of wheat, is taken up by the plant in the form of this salt—the ammonia evaporating as the silicic acid is deposited on the straw. If this ingenious hypothesis proves correct, we have at once an explanation of the well known fact that salt stiffens the straw of wheat, and has a tendency to retard excessive and injurious luxuriance. We would say of salt, as of plaster, it is cheap, and every farmer should experiment and ascertain its effect on his own soil. Analysis, in the present state of chemical science, will not aid, though when this subject is better understood, it is highly probable that it may prove useful.

CLOVER SEED.—The inundations in the south of France, where a large quantity of clover seed is usually raised for the English market, have materially injured the crop, and it is feared clover seed will be scarce. Farmers should raise all they can. Do not be tempted to turn your cattle into any clover field you have set apart for seed—better feed a little hay, or buy a few hundred bushels of shorts, which are now very cheap.

IMPLEMENTS which are no longer wanted for the season, should be carefully laid aside and protected from the weather.

A FEW WORDS ON UNDERDRAINING.

THERE is no subject so eminently worthy the earnest attention of American farmers, as that of underdraining. It is erroneous to suppose that *all* land needs underdraining, but we may assume that the greater portion of all the arable, and much of the grass land of this continent, would be much improved by the removal of all surplus water by means of underground conduits. The only question is, will it pay. Where land is sold for \$5 per acre, it is hardly to be supposed that it will pay to expend six times the fee simple of the farm in underdraining it. But where land is worth from \$50 to \$100 per acre in its undrained state, we hesitate not to say that nothing will pay better than an expenditure of \$20 or \$30 per acre in a judicious process of underdraining. For some years at least, underdraining alone will increase the products of most farms from one-third to one half, and there are many instances on record where it has *doubled* the crops. WM. P. OTTLEY, of Phelps, Ontario Co., N. Y., to whom the N. Y. State Ag. Society awarded the first premium in 1854, for the best managed farm, and the second premium for experiments in draining, says: "It is safe reckoning that draining will pay for itself, with interest of cost, in two crops." This is also the opinion of JOHN JOHNSTON and ROBERT S. SWAN, of Geneva, who have each laid about *sixty-three miles* of tile underdrains on their farms.

Mr. OTTLEY laid a portion of his drains with stone at a cost of 40 cents per rod, and the other portion with tiles at a cost of 31½ cents per rod. The drains were dug 2½ feet deep, and were cut in such parts of the field only as appeared to need underdraining. We should advocate a more thorough system, but "half a loaf is better than no bread," and, indeed, the result of this partial drainage was in the highest degree satisfactory, increasing the value of the land "not less than \$5 per acre annually, together with ease and comfort of tillage."

This "ease and comfort of tillage" is no slight advantage. Underdrained land can be plowed earlier in the spring and later in the fall than that which is undrained; and after heavy rains, while the undrained land is too wet for man or beast to work on, the drained soil is sufficiently dry to allow the usual farm labors to proceed without interruption.

Underdraining lies at the foundation of all agricultural and horticultural improvement, and it is as unwise to expend money in attempting to increase the fertility of a farm that needs underdraining by deep plowing, and good cultivation alone, or by the application of natural or artificial manures, &c., as it would be to build an expensive house on quicksand. In improving a farm, as in everything else, you must "begin at the beginning." This is the only true economy. Provide means for speedily removing all excess of water from the land, and you are then, and not till then, in a condition to carry out any other improvement that may be desired.

As long as the country is new, and the roots of trees afford a kind of natural drainage, land suffers little from drouths and wet seasons—it is partially underdrained. But as the roots decay out, the natural conduits are filled up, and we must go to work and provide artificial ones.

"All this is true," a farmer at our side replies, "but I cannot afford to underdrain. It is a very expen-

sive operation, and I have not the money to spare. I know quite well that my crops this year were not half what they would have been, had the land been underdrained, but then the idea of spending \$20 or \$30 per acre in draining, is in my case simply impossible; I have not the means to do it with."

"But would it not be better to sell a portion of your farm, and expend the money in underdraining the other portion? We know that under certain circumstances it is desirable to hold land, even if nothing is received from it, the "rise in real estate" making up for the loss; but this aside, it is far better to have 100 acres of well drained land, than 150 that, from lack of draining, produces only half a crop. We speak advisedly when we say that the former can be carried on with half the labor of the latter, while the crops are one-third larger."

"True, but if I should sell off one quarter of my farm, and expend the money in improving the other three-fourths, I should not be able to sell the improved 100 acres for enough more to pay me back the money buried in underdrains. People won't pay for improvements, especially for those which are out of sight."

"Money judiciously expended in underdraining is not buried out of sight. Out an underdrain through that field, and the wheat next year for a short distance on each side of it, shall be double what it is on the other portions of the field. No, sir, money buried in underdrains is not out of sight. Every dollar next harvest shall come again rejoicing, bringing his sheaves with him. But, then, supposing the farm will not sell for enough more to pay the cost of draining, what do you want to sell for? This desire to sell does more to retard improvements in American Agriculture than everything else put together. The lack of capital is a great drawback, but it is nothing compared with this restlessness which seems indigenous to a new country. This love of change will doubtless work its own cure, and in the meantime we will guarantee that in ninety-nine cases out of a hundred, money judiciously expended in underdraining a good farm in the older settled States, will pay a higher interest than that invested in any other way. In addition to this, you have the pleasure of seeing your farm gradually improve under your hands, and the consciousness that you are adding to the wealth and stability of the country." Every one who has had experience in underdraining, will bear us witness that it is of all farm labors the most fascinating, and if these few trite remarks shall induce any one to lay only a few rods of underdrains on his farm, this fall, our object will be attained, for we are quite satisfied that he will not stop, so long as there is a wet, undrained acre on his farm.

MOWING MATCH.—The *True Californian* gives an account of a mowing match which came off on the 9th instant, in Vallejo Valley, near the town of Vallejo, between Addison M. Ripley, from Maine, and Mr. Ball, from Vermont. The task was five acres of grass each, turning off two and a half tons to the acre! They mowed against time. Mr. Ripley won the match, finishing his work in seven hours and fifty-five minutes, and beating his adversary a quarter of an acre! The stake was five hundred dollars. Mowing machines would not stand much chance with such men.

THE IMPROVEMENT OF GRASS LANDS.

IN the improvement of grass land, the first thing to be done, is the removal of all stagnant water by means of thorough underdraining. Unless this is accomplished, the best of cultivation, seeding and top-dressing, will fail to produce their full effect.

When our meadows fail, from whatever cause, it is generally advisable to plow them up in the fall, and cultivate them thoroughly for two or three years, with corn, potatoes, or other root crops, manuring them heavily, and seeding down again when the white daisy and other weeds have been destroyed, and the old turf has entirely disappeared. If, however, the land is so low that it is not desirable to cultivate it with other crops, it may be plowed up in August, and well worked with the cultivator, harrow, &c., till a fine "seed bed" is obtained, not forgetting to give it a good coat of manure;—if long manure, plow it in; if well decomposed compost, which is best, spread it on the furrows, harrow and cultivate till it is thoroughly incorporated with the soil. About the first of September, sow it with artificial grasses, and be not sparing of the seed; half a bushel of timothy and half a bushel of red-top, or other grasses in proportion is none too much. Generally, by so doing, a fair crop of good hay is obtained the next season. This method of re-stocking worn out meadows has been practiced with much success by many excellent farmers in New England. Some of them recommend sowing clover with the timothy and red-top, in the fall, but we should be inclined to fear it would seldom survive our hard winters; unless, indeed, it were sown quite early, say in July or first of August.

We have seen meadows greatly improved by simply scarifying the sward in the fall by means of a heavy harrow, and then sowing from eight to sixteen quarts of timothy, red-top and rye-grass seeds, equal parts, to the acre. In the case alluded to, heavy rain followed immediately after the sowing, and the seeds were not harrowed in at all, but generally it would be well to cover them slightly with a light harrow. A good coat of compost, spread on the sward before the first harrowing, would be of much benefit.

The best time to top-dress all meadows that are not of too light or porous a nature, is in the fall. In England nothing was more common, twenty years ago, than to make a compost with barn-yard manure and old headlands, and after it was well decomposed, to cart it on to the meadows during the winter months. The effect was very beneficial. Unmixed manure was seldom used. Since the introduction of Peruvian guano, however, the practice of composting old headlands has, to some extent, given way to top-dressing with light artificial manures. Guano gives a better immediate effect, at a much less cost; but whether it is ultimately more profitable is an open question. With hay at from \$15 to \$20 per ton, there can be no doubt that a judicious application of good Peruvian guano, in the fall, or *very early* in the spring, will give sufficient increase, for a few years at least, to pay for the guano and have a reasonable profit. The constant exportation of hay draws heavily on the soil for potash, and as *guano contains very little potash*, (not more than two per cent.) it may reasonably be supposed that to manure with guano alone, will soon leave the soil deficient of available potash. If such should be the case, an application of wood ashes would supply the deficiency.

TO PRODUCE SEEDS ON EARLY POTATOES.

THE earliest varieties of potatoes do not produce flowers or seeds. KNIGHT, desirous of saving seed from one of these sorts, took a very ingenious method of inducing the plants to produce flowers. "I suspected the cause," he says, "of the constant failure of the early potato to produce seeds, to be the preternaturally early formation of the tuberous root; which draws off for its support that portion of the sap which, in other plants of the same species, affords nutriment to the blossoms and seeds; and experiment soon satisfied me that my conjectures were perfectly well founded. I took several methods of placing the plants to grow in such a situation as enabled me readily to prevent the formation of tuberous roots; but the following appearing the best, it is unnecessary to trouble the Society with an account of any other. Having fixed strong stakes in the ground, I raised the mould in a heap round the bases of them, and in contact with the stakes: on the south side I planted the potatoes from which I wished to obtain seeds. When the young plants were about four inches high, they were secured to the stakes with shreds and nails, and the mould was then washed away, by a strong current of water, from the bases of their stems, so that the fibrous roots only of the plants entered into the soil. The fibrous roots of this plant are perfectly distinct organs from the runners, which give existence, and subsequently convey nutriment to the tuberous roots; and as the runners spring from the stems only of the plants, which are, in the mode of culture I have described, placed wholly out of the soil, the formation of tuberous roots is easily prevented; and whenever this is done, numerous blossoms will soon appear, and almost every blossom will afford fruit and seeds."

KNIGHT considering that the above facts, which are more fully explained in the *Philosophical Transactions* for 1806, were sufficient to prove, that the same fluid or sap gives existence alike to the tuber, and the blossom, and seeds, and that, whenever a plant of the potato affords either seeds or blossoms, a diminution of the crop of tubers, or an increased expenditure of the riches of the soil, must necessarily take place, succeeded in producing varieties of sufficiently luxuriant growth and large produce for general culture which never produced blossoms.

LEBIEG states that he has found from actual trial, that the produce of a plot of potatoes from which the blossoms had been removed, was much larger than on an adjoining plot, on which the potatoes were allowed to mature seed. Certainly it is probable that such would be the case; nevertheless, there are those who state that they have tried plucking off the blossoms of potatoes, without any benefit, and sometimes with decided injury to the crop. Have any of our readers any experience on this point?

USE OF CLOVER TO ENRICH LAND.—I have sowed clover seed some 15 or 20 years, and find it a very cheap mode of enriching land. Some land on my farm that would not produce over 25 or 30 bushels of corn per acre, when I bought it, will now produce 75 or 80 bushels per acre—and with a good coat of manure I have no doubt it could be made to produce more, over one hundred bushels per acre.—T. GARDNER, in *Ohio Cultivator*.

CULTIVATION OF THE JERUSALEM ARTICHOKE.

MESSRS. EDITORS:—I received the ten volumes of the *Genesee Farmer* safe, and in good condition. I was pleased with the binding. They are quite an addition to my library, and I never invested seven dollars and fifty cents with more satisfaction. It seems as though there was something about every subject that could interest the farmer and gardener; but in one particular I failed to get the knowledge I desired. A neighbor of mine advises me to raise the Jerusalem Artichoke; recommending it highly. I thought for certain I should be able to find out all about it in some one of the ten volumes of the *Genesee Farmer*, but on examining them all over I can find no allusion to it whatever!

If you or some of your intelligent correspondents would give an article on the cultivation, chemical composition, and general characteristics of the Jerusalem artichoke, you would much oblige

A NEW JERSEY FARMER.

Some years ago, the Jerusalem artichoke, (*Helianthus tuberosum*), attracted considerable attention in this country, and, in the Middle and Southern States especially, many farmers engaged in its cultivation. For some reason or other, little is said about it at the present time, and we apprehend that it failed to meet the expectations of its sanguine introducers. It is amusing and instructive, at this time, to read the highly colored statements made in regard to this plant in the back volumes of some of our agricultural papers. Like the *Dioscorea* at the present time, it was said to be an admirable substitute for the potato, quite as nutritious, and infinitely more productive. According to *Allen's American Farm Book*, it yielded two thousand bushels of tubers per acre! and this was not all. Besides the tubers, it was said to produce from four to five tons of dry tops per acre, equal to the best hay! In addition to this, the plant required no cultivation; obtained its nitrogen from the air, and did not impoverish the land at all; and the tubers would remain in the soil during the hardest winters without injury!!

The Jerusalem artichoke is misnamed, it does not belong to the artichoke family; it is a sunflower. It is a native of Brazil, and was introduced into Europe in 1617. It is perfectly hardy—much more so than the potato and the yam, both of them natives of the same hot climate. The roots are composed of a number of oblong tubercles, very large and fleshy, reddish outside, and white within, resembling a potato. The stems are herbaceous and upright, and from four to six feet high—sometimes 10 or 12 feet.

Their cultivation the first year is similar to that of the common potato. When once in the soil it is impossible to get them out, and after they have been dug as clean as possible and the hogs have rooted out all they can find, there will still be tubers enough left in the ground for a crop. Of course regular cultivation and the use of the horse hoe is impossible.

The tops are cut down by the slightest frost in autumn; but the tubers, like the parsnip, may be left in the ground all winter.

In the Southern and South-western States, they have been cultivated to a considerable extent as food for hogs. The hogs are very fond of them, and root them out of the ground. How far this is profitable we have no means of knowing. There are plenty of statements in our agricultural papers written during

the Artichoke Fever, but we should as soon think of basing any sober calculations of profit on them, as we should on the statements made at the present time in regard to the *Dioscorea batatas*.

BOUSSINGAULT, who is not given to hyperbole, remarks that "of all the plants that engage the husbandman, the Jerusalem artichoke is that which produces the most at the least expense of manure and of manual labor."

KADE states that a square patch of Jerusalem artichokes in a garden was still in full productive vigor at the end of thirty-three years, throwing out stems from seven to ten feet in length, although for a very long time the plant had neither received any care nor any manure.

"The leaves of the helianthus," says BOUSSINGAULT, "are used in many places as forage, the stems being cut a few inches from the ground; the gathering takes place at different periods of the year, but probably to the detriment of the tubers; it may be lucrative to destine the leaves for the nutriment of cattle, but I believe we have to choose between the green crop and the crop of tubers. It is unquestionable that the premature removal of the green stems must prove injurious to the roots; on my own farm the leaves are never removed, and my opinion is, that it is vastly more advantageous to depend upon the crop of tubers alone. The tubers are gathered as they are wanted, for, not dreading the frost, they remain in the ground the whole of the winter; they do not require, like the potato, to be collected and pitted at a certain period, they require no particular situation, no particular care for their preservation; the only disadvantage that accompanies their being left in the ground, is that during very hard frosts the labor required to get at them is very great. During winter the woody stems of the plant dry up, they are then useful as combustible matter; but a better use of them perhaps, is to make them enter in certain proportions into the litter of the hog sty; the pith there absorbs a large quantity of the liquid manure. SCHWERTZ estimates the mean quantity of dry leaves and stems at three tons per acre. The following quantities of tubers have actually been gathered in Alsace:

	Tons	cwts.	qrs.	lbs.
Sandy soils,	4	3	3	6
Soils of the best quality,	10	8	3	13
At Bechelbronna (mean),	10	16	0	8
Bechelbronna crops of 1839-40, ..	15	16	1	16

We could easily furnish our correspondent with the chemical composition of the artichoke, but in the present state of our chemical science, the analyses of plants as usually given, afford, to our mind, very little satisfactory information in regard to the nutritive value of the plant, and none in regard to the soil and manures best adapted to its growth. However, as we feel in duty bound to furnish all the information in our power when required by our readers, if our correspondent is really desirous of ascertaining the composition of the artichoke, we can, in the October number, give him the analyses of M. M. BOUSSINGAULT, BRACONNOR and PAYEN, and of Prof. WAY and Dr. SALISBURY.

We should be glad to hear from any of our correspondents who have cultivated the artichoke as a field crop.

WHEN the apple is fed to the larger animals, hay and grass should always accompany it; and when fed to hogs, fresh clover or grain should be added.

THE WEATHER, WHEAT MIDGE, &C.

EDITORS GENESEE FARMER.—This 29th day of June is, I think, the warmest of the season. My thermometer marks 93° in an old store-room standing clear of the house, so as not to be influenced by fire used in culinary operations. Were it not for the breeze which prevails, we should nearly suffocate. The sweat of my brow is such as to eretile me to an appetite for my bread, in which, the good book says, we shall eat it. The ground is becoming very dry, and if there is no rain for some time to come the hay crop will be well cured before it will be cut, as the timothy is already showing symptoms of premature maturity. Clover shows signs of suffering; yesterday and to-day it has ripened rapidly, or rather dried down; the blossoms are nearly half changed in color. Corn is rolling itself closely up. Apples (small as they are), are dropping very profusely; I begin to fear there will be a short crop. Oats are badly pinched, although there is a chance yet for a fair crop, if there should be rain soon. Wheat is beyond reach of remedy, for the midge have appeared in myriads; scarce a grain but is already in their possession. We shall be obliged to forego the pleasure of wheat culture, (as I have for the past five years,) and go to raising stock,—say horses, as they are at this time a well paying stock, and what is certain, they must bear a good price for years to come; for they are higher at the west, from whence there formerly were a good many sent east, for the New York and Boston markets, but now will pay more than they sold for. Besides, the markets cannot be overstocked until they are raised, which must take some four or five years at least. Good oxen, as well as cows, in this Genesee country, bear a paying price. Oxen at six years old, well broke, have been sold at \$150 the pair, and milch cows sell readily at from \$40 to \$60 a head; and not fancy blood at that, such sell for a much higher mark. By raising more stock, we shall have more manure to apply to our corn, potatoes, oats and such other crops as we can raise without paying quite so heavy a midge-tax as we must on growing wheat. Thus our lands will be better conditioned to grow wheat, if, after the lapse of some years, the midge should disappear. I will stop, as I am occupying too much space, for one article, in your truly valuable journal. D.—Gates.

WHEAT TURNING TO CHESS.—I saw an article in the last *Genesee Farmer* on the subject of wheat turning to chess. Mr. JOHNSTON, you say, was a believer in wheat turning to chess, but he had tried it, and satisfied himself to the contrary.

Now I will tell you my experience on the subject. Four years ago I cleared off four acres of timbered land, and sowed it with wheat. I had a fair crop when I cut it; there was a very little weevil in it. I burnt the stubble, and got some clean wheat of my neighbor and sowed it again with wheat. There was a low piece of muck ground through the middle of the field. The wheat came up and looked very well until the next summer, and when I cut it there was a strip through the middle of the low ground—nearly an acre—that was all chess, scarcely a head of wheat in it; and on each side of it on the higher ground it was all wheat and no chess! Will Mr. JOHNSTON please explain why that was so in the next *Farmer*, and oblige H. INMAN—Hagaman's Mills, N. Y.

CANADA THISTLES AGAIN.

MESSRS. EDITORS:—There are many questions asked and answered, and much said in your and other journals, about Canada thistles and other noxious weeds, but all seem to fail, however well they apply any "certain remedy," in exterminating these prickly pests from the country, or even from their own farms. It is true that if you cut off the tops as fast as they appear above ground, the roots will die. It is also true that a crop of buckwheat succeeded by clover will generally thin them very much; and often, once mowing will nearly eradicate them for the time being. It is true, too, that laying down to grass and mowing five or six years, generally runs them out till you plow again. But it is not true that mowing, hoeing, plowing, or pulling them, at any particular time of the moon, or day of the month, or state of the weather, is a sure cure; though there are conditions of the plant and states of the weather that are more favorable to their destruction than others.

This pest of agriculture, this curse of the farmer, the greatest vegetable pest to the State of New York, is destined to remain amongst us, and to luxuriate in our choicest soils in spite of all the opposition that can be brought against it, and no person living will ever see it sensibly diminished under its present management, unless it should become diseased, like the potato, and be thus exterminated by a natural process. We can run them out for the time being, from some particular field, but at the same time they are increasing rapidly on some other portion of the farm. It is only on those farms where there is a decided improvement in the general tillage, that the average production of them diminishes.

You may say it is not best to talk so discouragingly to farmers, but the fact is, that we farmers have got so used to them, our fingers have got so callous from being constantly filled with their stings, that we are insensible to the evil, and most of us let enough go to seed every year to seed the whole farm.

I have often heard farmers say, "I care nothing for Canada thistles, I can take care of them, but these ox-eye daisies, this stein krout, this patent may weed, this quack grass, sorrel, or dock, I cannot abide." Now, brother farmers, let us reason a little with regard to these noxious weeds. There are three modes by which vegetables are propagated; by seeds, by suckers, and by layers of the tops or roots. There are two ways by which seeds are transmitted to considerable distances; by egret or wings, and by becoming food for birds and other animals and passing through their digestive organs without destroying their vitality, to say nothing of their transmission by man, with other products in various ways. Then, plants are annual, biennial or perennial; valuable or valueless. Let us see how it is with the pests above named.

The ox-eye daisy is food for birds, is propagated only by seeds, has no egret, is a perennial, but if cut in season is good hay, natural only to worn out meadows and pastures, and easily exterminated by culture and manure.

The stein krout is a biennial, food for birds, is propagated only by seeds, the seed has no wings, is good food for cattle, will make paint oil, and is easily exterminated by cultivation.

The patent may weed, or little white daisy, (I know not what else to call it,) is a biennial, not eaten, (I

think,) propagated only by seeds, has no wings, valueless, but easily exterminated, as all this class of plants are, by a little perseverance. Of dock we may say, ditto.

The quack grass is perennial, vegetates by suckers, layers and seeds, and is of course hard to kill; but the seed has no wings, is eaten perhaps by birds, but is not unpleasant to handle, and makes good pasture and hay.

Sorrel, I think, is biennial, wingless, propagated only by seeds, which are not eaten, valueless, but grows only where there is an excess of acid in the soil, and easily exterminated by applying lime or ashes, which neutralizes the acid.

The king of pests, the Canada thistle, grows in any soil not very neat, thrives most on the best soils, perennial, propagated by seeds, suckers and layers, has egret, is eaten and transmitted by birds, insinuates its seeds into every kind of grain, hay or straw, thrusts its thorns into our flesh at every touch, they are drawn into the lungs of our horses in the dust of hay, producing heaves; it is valueless, and has not one redeeming quality, unless it be that of bringing nutriment from a great depth, which it certainly ought to do, for its roots run to the depth of ten to fifteen feet in the hardest clay soil. It occupies almost every corner of our fields, every open space in our forests, thrives along our highways, railroads and canals, and in spite of law and man's natural enmity, it there luxuriates, and perfects and disseminates its seed. But all is not yet told. Its seeds, like many others, are encased in a coat of mail, rendering them, at certain depths, or in certain situations, impervious to air and moisture, and preserving their vitality for ages, but ready to burst into life whenever circumstances favor it. This last mentioned property, among the rest, with the apathy that prevails among the tillers of the soil, render it morally certain that we can never exterminate it, and can keep it down only by clean culture and perseverance; and the better we understand the habits of the foe we have to deal with, the more successfully shall we combat it.

AGRICOLA.

FALL PLOWING SHOULD BE DONE EARLY.—The *Boston Cultivator* well says: "Plowing, both for winter grain and for the purpose of rotting the sward before next spring, should be done as soon as practicable. If delayed till the warm weather is past, little or no decomposition will take place, but the vegetable matter will lie inert till spring, and the furrow then be tough and the grass likely to start from it. The sward would rot more in one month before the middle of October, than it would from that time to May. Many farmers often lose the great object they desire to accomplish by fall plowing, on account of overlooking this fact."

On the other hand, the *Cultivator* thinks that "if it is desired to mellow and sweeten a stiff clay, the later it is plowed the better, in order that the frost may act upon it at once before it is soaked by rain."

WHEAT MIDGE ON CLOVER.—It is generally reported that the wheat midge has attacked the clover heads. I wish to ask the readers of the *Genesee Farmer* if they have noticed the "varmint" in their clover fields. If so they would oblige by reporting their observations through your valuable journal. D.—Gates.

NOTES FOR THE MONTH, BY S. W.

THIS Summer of 1856 may be truly said to be an extra warm and growing one. On the 1st June very few early garden vegetables had begun to take that start, to which a sun warmed soil is indispensable; asparagus, pease and pie-plant always excepted. King Philip corn has proved a good substitute for the later sweet corn: it grows here six feet high; it has more ear, and is a week earlier than most other early corn; methinks farmers might find it valuable for a second planting, or to fill gaps where the first has failed or been destroyed. I take more pains with potatoes and get the poorest returns, and the least pains with beets, carrots and parsnips, and have the best. A rich heavy soil adds monstrously to the weight of beets, while it makes only potato vines. This spring I covered potatoes in the trench with vegetable refuse, but the decomposition has been too imperfect, the monster vines have exhausted the moisture and the tubers are naught; but the yield will be better on the same ground another year. Potatoes want a sandy or gravelly loam, treated with hog manure, or a new, rich, mucky soil, well drained; if planted on old sward, it should be plowed early the previous fall, so as to ensure the necessary decomposition at the right time to feed the tubers.

A Seneca county farmer would laugh at the experiment of that Brighton farmer, who expects a fall crop of turnips after wheat; here on all old soils we get only turnip tops in the fall, the worms take the turnips; but I have some sweet corn, planted after the pea vines were removed, that is now two feet high; it will ear in September, and the stalks will be worth more for a milch cow than all the turnip tops grown on four times the surface. Corn and beets have no enemies that good culture will not evade, and these plants luxuriate in a drought if the soil is well drained and rich; but turnips want a moist climate like England, where GREELY says the sun itself "looks like a boiled turnip."

But apropos of corn, the notion that good seed rots if planted early on a well drained soil, is a great fallacy. I this year planted three times over some bright looking eight-rowed yellow corn, got from toll corn at the mill, but it never sprouted; while every kernel of sweet corn of my own growing, planted at the same time, came up; hence the necessity of selecting seed corn from the stalk in the field, and of keeping it on the cob, and in a dry, airy situation. I can tell a slovenly farmer by the miscellaneous appearance of his corn. Some are partial to large cobs and small kernels; methinks they must want the cobs for jug stopples or kindling wood.]

I have been trying in vain to make by mixing, the mechanical counterpart of a specimen of Wisconsin prairie soil. Our calcareous clay is scarcely finer, but it is very adhesive, while the prairie soil is ever pulverulent, wet or dry; when I added sand to our clay, it was still an adhesive, mortar like conglomerate, although containing to all appearance more vegetable remains than the prairie specimen; hence I infer that the superior fertility or crop growing power of a prairie soil, is to be referred more to its fine mechanical structure, than to its superior wealth in organic matter. Verily old Jethro Tull was more than half right, when he said that the secret of large crops was in the thorough comminution of the soil.

It seems to be the prevailing opinion among farm-

ers that the wheat midge, like the Hessian fly, has seen its best days in our region. Perhaps it has been starved out by the general practice of growing the early Mediterranean wheat; there can be little doubt but that plowing in the wheat stubble deeply where the insect has prevailed, puts the germ *hors combat* for the next year. The thorough destruction of the insect enemies of plants is the true remedy for their mischief, if it can be compassed. The large brown squash bug, and the smaller cucumber bug, will cease to be a pest in any garden where half an hour a day is devoted to their destruction, after their first appearance. Should a few eggs be deposited on the under side of a large leaf, take out the part with the eggs, and the next year you will have no bugs. It is much more difficult to distance the enemies of fruit trees; while our pear trees are struck with blight, cherries are stung, and our sweet bough apples fall off wormy, the poor peach tree, young and old, is attacked root and branch; and if the plumb tree can be saved by the knife from the blight of the black knot, its fruit is still punctured and destroyed; twenty years ago this fruit was as free from enemies as our grapes, raspberries and currants are now!

Here is a man—call him not a farmer—who has twenty acres of meadow to cut, thus late in the season. His argument for late cutting is that labor is cheaper, and it is so dry that it needs no curing either in the cock or by spreading; he cuts and loads it directly for the stack or barn. I did not see the man's cows, but his horses looked as though they belonged to a cooper who fed them on hoop poles. If such a man was tried by a jury of his cows, his fate would be hopeless. S. W.—*Waterloo, August 10, 1856.*

BEARDED VARIETIES OF WHEAT.—The future of wheat raising, owing to that great pest the midge, like "the star of empire," points westward, yet we may raise sufficient for family use by sowing the Hutchinson, or some other bearded variety, as the "varmints" seem to avoid all bearded varieties, or at least they infest them much less than the bald varieties. It is well attested, that there is very little loss from the midge in the bearded kinds of wheat; therefore I think your numerous readers will do well to look at this matter, for the old flint, and other varieties of bald wheat in this vicinity, are very nearly a total loss, while the bearded will afford a tolerable yield of good plump wheat. I have examined several fields in this immediate neighborhood, and find in fields of bald wheat, from one to five insects on nearly every grain, while in the bearded, in several instances, I did not find a single "creetur," and very few in any case. If any of your subscribers have observed the habits of the midge enough to give any light on this subject, they will confer a favor on a multitude by communicating the same through the *Genesee Farmer*. D.—*Gates, Monroe Co., N. Y.*

WOOD LAND PASTURES—ARE THEY PROFITABLE? There are those who think not, for these reasons: The grass and shrubs which grow in the shade of a forest are comparatively innutritious; the droppings of flocks pastured in such places are lost to the present generation; the cost of keeping in repair a long range of fences is greatly disproportioned to the value of the return in pasture on such fields. What is the experience of our readers?

CHEESE-MAKING FROM A FEW COWS.

MESSRS. EDITORS:—I have read your article on the "Manufacture of Cheese," in the July number, with much interest; but the directions given are adapted rather for large than small dairies. I keep four cows and wish to make a little cheese for the use of our family, and should be glad if you would give a few directions for my guidance. By so doing you will oblige at least one of your readers.

Seneca Co., N. Y.

A FARMER'S WIFE.

We should be glad if some of our readers would answer the above inquiry. In the meantime we offer a few hasty hints which we hope may be of use to our correspondent.

The difference between making cheese from a small and from a large dairy, consists principally in this. In a large dairy the curd is made into a cheese every day, while in the small dairy the curd—obtained precisely as in the large dairy—is slightly pressed and laid by in a cool place till a sufficient quantity is obtained for making a cheese as large as desired.

The night's milk should be kept as cool as possible, and the next morning placed in a tub, together with the morning's milk, and the whole, by adding a portion of heated milk, raised to about 85° Fahr. The rennet is then added, the milk well stirred, and afterwards let alone till the curd is well come. The time this occupies varies from fifteen minutes to two hours, according to the amount of rennet, temperature, &c.—the warmer it is put together, and the more rennet there is added, the quicker will the cheese come. As a general rule the longer it is in coming, the tenderer and sweeter will be the curd. We should seldom desire it to come sooner than forty minutes after the rennet is added.

When the curd is come, it is broken up quite fine either by hand, or by a curd breaker, which cuts it into very small pieces. After this it is allowed to stand and settle. Some persons at this stage raise the temperature of the whey and curd up to 95° or 100°. This is called "scalding." The practice has its advantages and disadvantages. If the milk is warm enough when the rennet is added, it may be dispensed with; if too cool it may be required. If it is desired to sell the cheese when a month or six weeks old, high scalding is indispensable, but in making good cheese for home use, we should scald very little, if at all.

The curd is easily separated from the whey by throwing the whole into a sieve or on to a cheese cloth. The curd is then placed in a strong cloth, and well pressed to remove as much of the whey as possible. This is very important. It is then placed in a cool place, and the operation repeated daily—or every other day, if the milk will keep sweet, as it will in a cool cellar in the fall.

When sufficient curd is obtained in this way to make a cheese of the desired size, it is all mixed together, broken quite fine, and salted. It must then be pressed for a few hours; a clean dry cloth put round it, inverted, and pressed again. At first it should not have too heavy a pressure put on it, but it cannot be pressed too dry. It should have dry cloths put round it and be kept under the press till it does not wet them. Many will object to so much pressure, but we speak from experience and with much confidence on this point. Less scalding, and more pressure would, in our opinion, add greatly to

the *real* value, and cheese-like flavor; though perhaps not to the buttery appearance and *saleable* qualities of most American cheese.

When the cheese is taken from the press it should have a little salt put on it, and be kept in the dairy, or other cool moist place for a few days. It may then be taken to a dry room, where for the first week or two it must be turned every day, or the side next the floor will mould. The room should be well ventilated, and nearly dark.

CLAY, A VALUABLE PAINT.—A correspondent of the *Country Gentleman* gives the following recipe for making a cheap and valuable paint for buildings:

"Take common clay, (the same that our common bricks are made of,) dry, pulverize, and run it through a sieve, and mix with linseed oil. You then have a first rate fire-proof paint, of a delicate drab color. Put it on as thick as practicable.

If any one has doubts with regard to the above, just try it on a small scale—paint a shingle for instance and let it dry. Recollect that it must be mixed thicker than common paints.

The clay, when first dug, will be wet or damp, but will soon dry, spread in the air under a shelter, or, if wanted immediately, it may be dried in a kettle over a fire. When dry it will be in lumps, &c., and can be pulverized by placing an iron kettle a few inches in the ground, containing the clay, and pounding it with the end of a billet of hard wood, 3 inches in diameter, 3 feet long, the lower end to be a little rounded, &c. Then sift it. Any clay will make paint, but the colors may differ, which can easily be ascertained by trying them on a small scale as above indicated. By burning the clay slightly you will get a light red, and the greater the heat you subject it to the brighter or deeper the red."

EFFECTS OF IRRIGATION.—MR. ARTHUR YOUNG, in his "Travels in France," vol. 2, p. 171, has the following:

"PROVENCE—*Avignon*.—Irrigation is here carried on in great perfection, by means of the waters of the river Durance and the Crillon canal, made only for the purposes of watering. The meadows are mown thrice a year, producing from 30 quintals of hay, at 40s. to 60s. the quintal, on each *eymena* of 21,600 feet (7 ton 14 cwt. per acre) at three cuts. Such meadows sell near the town for 1000 liv. (\$382.00) per acre; further from it, 800 liv. (\$306.00) per acre. If the season is dry, they are watered every twelve days; but in a moist time, once in three or four weeks. In some cases, they begin with turbid water, and finish with what is clear to clean the crop. Never water their corn at all, but in extraordinary droughts."

FRENCH CLOVER.—We have a plat of Lucerne, or French clover growing this summer, (sown last year,) which is very luxuriant, and which answers an excellent purpose as a green fodder to feed out to our stable horse occasionally, or to our cows as their morning repast, before being driven to pasture. We began to cut it when it stood eight or ten inches high, when common grass was hardly advanced enough for sheep to clip, and have gone over the ground twice or thrice the present season. We have no doubt we can cut it yet twice more before winter. It requires rich land, and had better, we think, be sown on sandy loam, as it is in danger of being frost-hoven and winter-killed. Ours is sown and cultivated in drills. It has been in the ground but one winter, but it has stood that with perfect triumph.—*Rural Intelligencer*.

VALUE OF CORN COBS.—Shell all your corn before you sell it, and *crush the cobs for cattle feed*; when crushed, cooked, and mixed with cut hay or straw, 4 bushels are worth as much as 2 bushels of grain, and make most excellent messes for milch cows, or working oxen.—*Exchange Paper.*

In the Eastern States, where corn and all kinds of cattle food command high prices, there can be little doubt that it pays to grind the cob with the corn without shelling. In the large Rochester mills, the charge for grinding a bushel of shelled corn is five cents; for grinding two bushels of corn in the ear, (equal to a bushel of shelled corn) eight cents. Estimating that the two bushels of ears weigh 80 lbs., and the bushel of shelled corn obtained from them to weigh 60 lbs., we pay three cents for grinding 20 lbs. of cobs, or \$3 per ton. It must be remembered, too, that we save the expense, and the loss of corn, of shelling. Corn-cobs are not very nutritious—equal to the best wheat straw—but in this neighborhood, at least, when ground, they are well worth \$3 per ton. There is, however, no such advantage in grinding cobs as the writer we have quoted would lead us to believe. He says four bushels of ground cobs are worth as much as two bushels of grain. This is a great mistake. Four bushels of cobs, at most, would not weigh more than 80 lbs., while the two bushels of corn would weigh 120 lbs., and no one can for a moment suppose a pound of cobs, cooked or ground, or messed up how you will, can possibly afford as much nutriment as a pound of corn.

The practice of grinding corn in the ear, where cattle food is high and scarce, is a profitable one, and there is no necessity for making such extravagant statements in regard to it. If those who write for the agricultural press would keep within bounds, there would be far less prejudice against book farming.

THE CULTIVATION OF WHEAT.

As another harvest is gathered, the farmers of New-York again have an opportunity to judge of the products and value of the different varieties of wheat sown in the fall. Fearing the depredations of the midge, many have sown the Mediterranean variety, believing that its long beards and early maturing would prevent the working of that insect. The long beard is useless, however, and the early maturing is its only protection from these depredations. Taking into consideration the quality of the grain, and the yield per acre, it will not be advisable to sow the Mediterranean wheat, if two-thirds of a crop can be obtained from the White Flint or Soles variety. It is for the interest of the farmers of Western New-York to furnish the millers with wheat which will make the best quality of flour made in any quarter of the globe. If they should cease growing the choice varieties, the loss would be greater than that occasioned by the midge.

To guard against the midge and the Hessian Fly, much attention should be paid to the preparation of the soil and the time of sowing. If we sow before the fifth of September, the wheat is liable to be injured by the Hessian Fly, and if we sow after that date, the midge is to be feared, for other things being equal, the earliest sown is the earliest matured. Much also depends on sowing seed that was fully matured before being gathered, and wheat cut when it will make the most and the best flour is not fit to sow. Wheat which is fully ripe when cut is preferable for sowing, as it has

proved to be more hardy and not so liable to be injured by the fly.

The farmer who believes that wheat will turn to chaff, and yet sows wheat that contains chaff, injures himself as well as the miller, for chaff wheat will not make superior flour. No wheat should be sown which has other seeds mixed with it, as it will take years to clear them from the land. If those who believe in the change from wheat to chaff, will sow nothing but pure wheat, they will in time clear their lands of chaff. When once introduced, however, it will take several years with the closest attention to disperse it; for it ripens early, and mixes with the wheat in cutting, and produces another growth. Farmers should be careful to frequently change their seed wheat. If they procure it from a distance, and from different soils, the improvement in their crops will compensate them for their trouble and expense. I have found some new varieties do well in favorable seasons, but when the grounds were bare most of the winter, there would be almost a total failure. Most of the varieties from Europe are later in ripening, and not hardy. R. HAMMON, in *N. Y. Chronicle*.

THE EXHIBITION OF THE ROYAL AG. SOCIETY.

THE Fair of the Royal Agricultural Society of England, held at Chelmsford, in Essex, is said to have been one of the best ever held by the Society. We have received full reports in our foreign exchanges, and will endeavor to give a few extracts that may not prove uninteresting to our readers.

IMPLEMENTS—"We do not remember," says the *Mark Lane Express* of July 20th, "ever seeing so complete an exhibition of implements, and one that was disparaged by so few useless toys that tend only to display ingenuity of design and engineering skill, but of no practical utility to the farmer." The Society offered a prize of five hundred pounds (\$2,500) for "an economical substitute for the plow and spade." Several steam plows were entered for trial, and the results were highly satisfactory. The prize has been claimed, and the *Express* remarks: "however much the judges or the Society may hesitate, popular opinion has gone far to award it." The work is said to have been "beautifully done." The men in command had perfect control of the steam horses, and started, guided and turned them with ease. One of the steam plows exhibited was purchased by Mr. CRAMP, of Witnam, Essex, who proposes to let it out, like the threshing machine, for the use of his tenants and neighbors.

Howard's Prize Plow, so successful at the Paris Exhibition, and a cut of which we gave last month, was also awarded the highest premium at Chelmsford.

The trials of Reaping Machines on a field of rye were not satisfactory, and the award is deferred till harvest.

Chambers' Liquid Manure Drill gave great satisfaction. It is somewhat on the same principle as Chandler's, only that the liquid falls by a drop instead of in a stream. It is said to be "a great advance of anything of the sort yet invented."

EXHIBITION OF STOCK—"If," says the *Express*, "we can speak in high terms of the display of implements, we may say as much or yet more for the show of stock. When the turn of the latter did come, they certainly had the call. The freshest of visitors could scarcely resist diving at once through the many famous stands of machinery, intent above all things else to get a glimpse of the famous Short-horn bull—

of the Southdown that had beaten Jonas Webb—or for a long look at such a range of Suffolk horses as no man ever saw before.”

SHORT-HORNS.—The Short-horns were not numerically so strong as at some former exhibitions. “There was no mistake, however, about the excellence of some of them. Lord Feversham’s prize bull, for instance—Gloucester—which took the first prize at Paris last year and the second at Carlisle, was only here a commended animal. One might so look for something extraordinary to stand so far before him. And such is the case. For shape and quality—a fine, full, but compact frame, a head that shows the highest breeding, and a touch that tells it still more, we at least, in our time, have never seen so near an approach to a perfect animal as ‘Master Butterfly’ now is.” This bull, bred by Mr. TOWNLEY, was sold for the unprecedented price of *twelve hundred guineas!* (\$6,048). He goes to Australia. Mr. AMBLER’S prize bull calf was sold for one thousand dollars. “Indeed,” exclaims the *Express* in chronicling these sales, “the run upon this stock (short-horn)—what with France, Australia and America to compete for it, is more extraordinary than ever. At Chelmsford the supply by no means equalled the demand.”

HEREFORDS.—With two exceptions, the Herefords exceeded in numbers those of any exhibition of the Society during the last ten years. Lord Berwick’s 3 year old Bull Napoleon III., took the first prize of £30. He is not long in frame, but amazingly deep; his chest and all along his underneath parts, exceedingly good; his flank very full, deep and low; his chine and girth great and good; back a little amiss; hips are fair, wide and good; his legs short. The quality of flesh and softness of skin quite first-rate.

The first prize for “Cows in Milk or in Calf” was awarded to Mr. PERRY, for a very beautiful animal; her frame uniform and good throughout, twist and thighs alone defective. Her brisket good, and milk veins denote a first-class milker; her chine and ribs are all you can wish for, in her frame; shoulders well out, hips just right, her countenance mild and docile. She is not large, nor does she stand high, but very complete.

On the whole, the Herefords were never better represented.

DEVONS.—In this class Mr. QUARTLY, so justly celebrated as a breeder of Devons, takes the first prize of £30 for his bull “Sultan,” 3 years and 4 months old. This bull is almost a perfect cylinder. He is a remarkably compact and well-formed animal, of very superior quality; short legs, great in girth, capital fore-quarter, a very level back, and very uniform in his proportions and color; his hips and tuts are too narrow, and tail stands high. We always think this a fault in the Devon breed.

In the Class of 2 year old Bulls, His Royal Highness Prince Albert took the first prize of £25. The *Express* well remarks:

“It always rejoices us to see our princes and nobles entering the lists as general competitors in the most laudable endeavor to promote a nation’s wealth and the advancement of agriculture. In this peaceful rivalry prince, peer and peasant meet upon common ground, and take their stand and chance with the band of exhibitors; and without favor or fear are the adjudications given, in the most perfect spirit of fairness, and in exact accordance with the merit of the animals exhibited. The peasant has as good a chance,

personally, as the prince. Woe to the Society were it otherwise! We are glad to see that the Prince has reaped rural honors again, by the award of the first prize of £25. This is a first-class animal. His countenance is very mild and pleasing; his chest, brisket, flank, and underparts excellent; his hips, loin, thighs, tuts, and twist are all good, and full; his back straight and level; perhaps his chine is too narrow, and his horns are wide; but he possesses beautifully symmetrical proportions, and is of first-rate quality of flesh and softness of skin.”

In the Class of Cows in Calf or in Milk, the first prize of £20 was awarded to JAMES QUARTLY, of Molland, for his cow “Stately.” “She is,” says the *Express*, “exceedingly beautiful, and possesses the best quality of meat we have yet seen in the yard. Her frame is very symmetrical, and true in form, and her offal remarkably fine; her only fault is in being somewhat too small, but still a superb animal, taking her altogether.” The Class was very superior.

HORSES.—The average number of horses exhibited at the annual shows since 1847, is 96. This year there was 196! In proportion to the extent of the show, so was its excellence. “We never saw,” says the *Express*, “at any time, such a noble gathering of noble animals.” The Suffolks mustered in great force, and the second prize for Stallions for Agricultural purposes was awarded to one from Mr. CATLIN’S stock. This is a good specimen of its class. Here is strength enough, size enough, and activity enough for any work. The fine expressive head, characteristic of Mr. CATLIN’S blood, is here fully developed. This is the peculiar seal that seems to distinguish all the members of this family. (We gave an excellent likeness of one of Mr. CATLIN’S prize Suffolk horses in the March number.) The first prize was given to a Clydesdale horse exhibited by Prince Albert. The award is said to have given very general *dissatisfaction*.

In the Class of two year old Stallions for Agricultural Purposes, the first prize was awarded to a Suffolk Horse belonging to Mr. SEXTON. He has a strain of the Catlin blood; and is thus described by the *Mark-Lane Express*:

“He stands like a tower of strength. The union of the neck and shoulder is admirable. His barrel is well turned, rib not too deep, his bone is fine and flat, and his legs clean; indeed he presents a living testimony to the fact that bone and flesh do not constitute strength. The breeder here seems to have succeeded in establishing the advantage that lies in reducing the size of useless parts, and in getting rid of unnecessary appendages. Huge bulk must be reduced before symmetry and compactness can be acquired, it being an invariable law that bulk is attended with a corresponding degree of coarseness. This practice must not be carried too far. The object of the breeder should and must be to retain a certain size in the animal, and to impart to that size the necessary muscle and spirit.”

EXHIBITION OF SHEEP.—**SOUTH-DOWNS.**—For a few years past, the celebrated South-Down breeder, JONAS WEBB, has not exhibited his sheep at any of the Fairs. This year he has again entered the field. At the Paris exhibition he carried all before him. At Chelmsford, to the surprise of every one, his Paris prize yearling ram came off second best. The *Mark-Lane Express* remarks:

“The first prize was awarded to Mr. Overman, and considerable discussion has been raised upon the decision of the judges, exciting no ordinary interest

throughout the show-yard. The fact that "Jonas Webb" was beaten in competition was sufficient to rouse the greatest interest among the South-Down breeders, so that a very large amount of criticism was expended upon the rival animals, especially as Mr. Webb's shearing was the prize sheep of the Paris show, and had been refused to a purchaser (we were told) at the large sum of 500 gs. (\$2,500!) Mr. H. Overman, the successful competitor, is a celebrated breeder in Norfolk; and, waiving any doubt as to the decision of the judges, we rejoice much at his present success, his ram being a very superior animal. Mr. Overman's flock has not been surpassed for many years, for wool and substance. The Chelmsford prize shearing is quite in character, having a large well-formed frame, with capital bosom, good flank, thighs, and good neck, and yielded a large fleece of 10 lbs. But still we thought him hardly so handsome or symmetrical as Mr. Webb's shearling, which received the second prize: his general frame and proportions were barely so good, and his back not so even; while in quality of flesh and wool he is inferior. Perhaps still Mr. Overman's would be preferred by the public."

The first and second prizes for "Rams of any other age" (but yearlings), were awarded to Lord Walsingham, who also took the first and second prize for the best pens of shearing ewes. *The Express* says:

"Lord Walsingham's first prize ewes are large, wide and of very beautiful quality, having fine bone, and being exceedingly level in character.

"His Lordship's second prize ewes are very good, symmetrical and beautiful. These lots were sold, one to the French Government and the other to an American gentleman, at 20 and 17 guineas each respectively."

On the whole, the exhibition of South-Downs was the largest (except at London in 1851, the "Exhibition year,") and best ever made by the Society.

LEICESTERS.—The show of Leicesters was meagre. The average number exhibited for the past nine years was 97: this year only 60 animals were shown. The character of the sheep, too, indicate little improvement. There were too many reminding one of the witty definition that a "Leicester sheep is like a soda-bottle on legs," the neck being too lank, the rumps narrowing off, and the general conformation being deficient in breadth, depth, and compactness of symmetry.

LONG WOOLLED SHEEP.—The show of Cotswolds was in number considerably above an average, and of surpassing merit. Mr. WALKER's first prize shearling is said to be of "wonderful size, beautiful symmetry, and fair offal; and has a splendid fore-quarters, flank, loin, and rump."

EXHIBITION OF PIGS.—The show of pigs was large and good. "The small breeds were never excelled, taking them collectively, and the large breed classes produced were astonishing animals."

LARGE BREED.—The first prize of £10 was awarded to the Rev. C. T. JAMES, of Ermington, Devon, and the second to J. HARRISON, Jr., of Stockport. *The Express* says:

"The Rev. C. T. James 1st prize boar was much admired. He stands upon short legs, is very thick in form, and broad in frame throughout, excellent in quality for a pig so large, his rump good, but a trifle too low. We seldom see a much better pig, so much weight and good flesh combined, and quite in character with his designated breed.

"Mr. Harrison's 2d prize boar was greatly admired; he partakes of the small breed in his general character and form, but is of tremendous size and substance; his

frame is good, his neck, chine, back, and loin broad, full, and wide throughout, head and ears short, the latter pricking, chaps good and fat, tail too low, stands rather narrow."

The first prize of £10, for the best breeding sow of a Large Breed, was awarded to W. B. WAINMAN of Carhead, Yorkshire. "This is a very large animal, and highly proportionate for her size; she is 6 ft. 5½ in. in length; her frame is very deep; her back is level and broad—indeed, well and broadly-formed throughout; her tail too low; quality good; she is the daughter of No. 603, standing—or rather lying, for she cannot stand—in the adjoining pen. This sow (603) is a very remarkable animal, and is the second prize sow at the Carlisle meeting. Her head is short and comparatively fine; her length is astonishing, and her general proportions are good; her weight at Carlisle was 9½ cwt. She has taken ten first prizes, and is now on her return from Paris, accompanied by her ten sucklers. We understood she could not be got up for the judges's inspection."

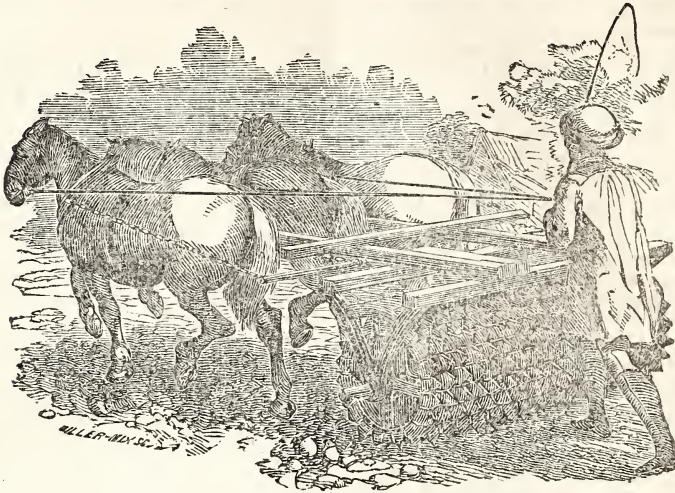
SMALL BREED.—The first prize for "Boars of a Small Breed" was given to THOMAS CRISP, of Woodbridge, Suffolk, for a very superior animal, entirely black, his head short and fine, ears short, thin, and nicely prickly and pointing forward, his chaps full, neck short and fat, chine, back, and loin very broad and level, his frame very deep, and legs short, tail and rump more up and even with back than in most breeds, his hair thin and not too soft, offal fine, and quality of flesh exceedingly good.

The first prize for "Breeding Sows of a Small Breed" was awarded to H. S. HAYWARD, of Willington, Suffolk, for a very complete and compact animal, of exceedingly good quality of flesh. Her ears are remarkably thin and pretty, snout short, chaps full, neck good; chine, back, and loin broad and full; a very handsome frame, on short legs; tail not quite high enough. Sold for 35 guineas.

MACHINERY FOR HUSKING CORN.—The *Scientific American* thinks there is a good chance for a fortune resulting to the inventor who shall be so fortunate as to invent a successful machine for "husking" corn. It says:

"The annual production of Indian corn is six hundred millions of bushels, nearly all of which is shelled by machinery; but the husking is done by hand. The expense of husking is estimated at five cents a bushel, or \$3,000,000 a year! No less than 120 different patents have been granted for shellers; but for huskers only four patents have ever been issued, two of which have long since expired. Not one of them is sufficiently practicable, we believe, to meet the wants of the community. Corn huskers are very much needed on every farm throughout the land. Here is a splendid opportunity for inventors, and we hope they will not be slow to improve it. The patent for a first rate husking machine will be worth a fortune."

HOW TO CATCH HAWKS.—Erect a pole 12 or 15 feet high, in a place where there will not be anything else near for them to light upon, and upon it set a common fox trap, on which they will alight. A strong rat trap will answer the purpose, by tying it on the pole lengthwise, with the jaws raised above the end, the pole being a little leaning, so that the jaws will not fall together. When one hawk is taken, tie it on the ground near the pole, and its mate will be in the trap in a short time.



CROSSKILL'S CLOD-CRUSHER.

CROSSKILL'S CLOD-CRUSHER.

WE consider Crosskill's Clod-Crusher one of the best agricultural implements of modern invention. We have repeatedly urged its merits on the attention of our readers, and we are glad to find from the last *Southern Planter*, an excellent agricultural paper, edited by FRANK G. RUFFIN, Esq., and published at Richmond, Virginia, that it has been introduced on to several plantations in the "Old Dominion" with great success. Mr. R. says: "We have had this important English implement [Crosskill's Clod-Crusher] in use for nearly two years, and can testify experimentally to its great utility, and, economically considered, to its necessity to many farmers in Virginia." After answering the objections to its general introduction on account of its high price, (in England it costs about \$90,) Mr. R. remarks:

"Among implements which may be called really great inventions, Crosskill's Clod-Crusher is entitled to a high place. Its name is its best description as its performance is its highest eulogy. It does not pulverize clods, though there is as much resulting dust and fine soil as from the action of the best harrow; but it reduces them, the largest and hardest, without difficulty, into minute and manageable fragments, leaving the harrow, in this respect, completely in the shade. Indeed, it accomplishes at one traverse, what the harrow can never accomplish at all, as the following description will prove:

"It is a roller six feet long and thirty inches in diameter, weighing about two thousand pounds. But unlike most rollers, which are either a solid cylinder, or, at most, a cylinder in two or three sections on the same axle, this implement is composed of twenty-three independent serrated wheels of cast iron—the teeth standing out like cogs, but reduced to an obtuse cone or boss at the point—supported on four feathered arms—each alternate wheel of some three inches less diameter than the others—with an eye formed in the center fitted to move easily on the common axle. But the eye of the larger wheels is expanded to such a size as to give them a play of several inches on the axle, which is guarded at such points by a revolving collar, fitted to catch the wheels

as they descend. Perpendicular to the angle of each tooth, on both faces of the wheel, is a small cast iron wedge or flange, which, as the clod breaks, drops down on it, and splits and mashes it into smaller fragments. With its weight and momentum, its cones and wedges, its vertical play of the larger wheels, and lateral play of all, it is evident that it must be a powerful implement, and capable of reducing the most intractable clods.

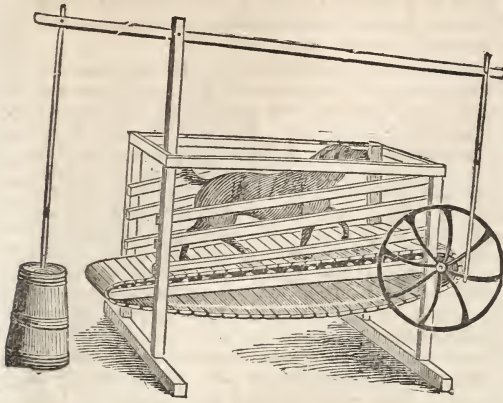
"The common roller, if it does not crush the clods at once, presses them into the ground, where they lie unbroken, and affording no soil for the plants around them to feed in, or are again dragged up by the harrow; or, in very hard clods, it bounces from one to another, breaking only those that it strikes with some impact.

"The harrow frequently passes by or over clods, and even when the largest are broken, which is by no means universal, their fragments become rounded by attrition with the harrow teeth, or with each other, and further harrowing is useless as to them, and pernicious as to the soil.

"The implement in question does neither. If a clod is pressed into the ground it is just in the best position to be crushed; and so far from slipping away from it, clods are frequently caught between the surfaces of the wheels, lifted up and ground to powder—in this way we have more than once seen a broom-straw tussock completely ginned of the indurated dirt that enclosed the roots—the whole surface is reduced to a mass of dust, fine dirt, and clods about the size of a hen's egg or less, and left just in the best condition to receive the seed, and allow of the best action of the covering harrow. The track of the machine presents much the appearance of sheep tracks over a mellow surface.

"It thus combines the action of the roller and harrow into one implement, and performs at one working what both of them often fail altogether to accomplish, and never succeed entirely in doing."

We have no doubt that it would pay any of our agricultural implement makers to manufacture this Clod-Crusher. There is, indeed, an implement made in this country having a serrated surface, but it is a solid body and cannot be as efficient as the one above represented.



DOG POWER FOR CHURNING.

MESSRS. EDITORS.—I have heard that there is in the States, a kind of churn which is worked by a dog or sheep. Do you know anything about it? If so, you would oblige me much by giving a description of it.

A CANADIAN FARMER.

Pelham, C. W., Aug. 18, 1856.

The accompanying engraving will convey a more definite idea of the dog-power churn than the most elaborate "description." The principle of its construction, is the same as that of the endless chain horse-power. We believe, however, that instead of a chain, India rubber bands are used. Of course, any kind of churn can be attached to the power, but the best, in our opinion, is the old-fashioned dasher churn. In fact, notwithstanding the thousand and one inventions that have been patented, it is very questionable if we have any better churn than the dasher. It is true that the labor of churning is far greater than with many other churns; but this arises from the disadvantageous position of the churner, and not from the churn requiring a greater amount of force to work it. When worked by a crank, the labor is far less fatiguing. Attached to a dog-power, as shown in the engraving, it works easily, and we believe in every way satisfactorily.

We should like to hear from those who have tried the dog-power churn.

WATERING TROUGHS.—A correspondent of the *Prairie Farmer* recommends large iron kettles for watering troughs. He says he has used them some years for that purpose, and considers no "other trough fit for watering cattle." He also recommends small kettles of a spider or skillet form, to be set round to feed or water a standing horse in, or an occasional pig or two; and says that "if farmers would purchase a few of these kettles of different sizes for such uses, to stand about the place, they would find them the best and cheapest utensils, in the long run, they could obtain, and it would save them the trouble of running all over the neighborhood to borrow, every time they killed hogs or made soap."

WHITEWASH FOR FENCES.—One ounce white vitriol, (sulphate of zinc), and three ounces of common salt, to every three or four pounds of good fresh lime, it is said, will render it very durable when exposed to the weather.

"SOWING WHEAT ON CLOVER SOD.—In one of the back volumes of the *Ohio Cultivator*, (vol. 2, page 175,) an experienced farmer, "as the result of repeated experiments," recommends the following mode of preparing clover sod for wheat. We should like to hear from any of our readers who have tried this plan. In this region, unless the land is very clean, we should stand a chance to get more grass than either wheat or clover:

"If I had a good clover sod, (not blue grass,) I would not feed a man and his horses to plow it more than once for me. My mode is, to mow the first crop of clover, then let the second crop grow up, and about one-third of it get ripe; then plow it in and sow the wheat immediately. In plowing, I do not want my ground 'cut and covered,' but all of it stirred. By this mode of turning in half-ripened clover, I have my ground well seeded with clover—better than where I have sown the seed in the spring. I cannot be persuaded to plow ground before harvest, and then stir it several times before seeding. Even if the crop of wheat may be better, I believe it is injurious to the ground."

WHEAT ON OAT STUBBLE.—An experienced farmer says he has had very good wheat after oats by adopting the following mode or rotation of crops: Manure corn ground well in the spring—which he believes is the best time to apply manure—plow it in deep; work the corn shallow, so as not to disturb the manure; plow shallow the next spring for oats; and in the fall plow deep, so as to bring up the manure, (which has now become fully rotten,) for wheat. If the oat stubble is thick enough and dry enough, burn it off; which will make the ground in first rate order for plowing, and kills the seeds of noxious weeds. If the seeds of weeds get in with the manure by putting it on the corn ground, there is a better chance of killing them than when plowed in with stubble for a crop of grain.

RAISE YOUR OWN SEED.—As our beautiful Genesee country is fast becoming disfigured by Canada thistles, white daisies, and other weeds, we must, each farmer for himself, raise his own grass seed, which all may do with considerable saving, if not profit. Let every farmer mow off in June a patch of clover sufficient to grow the quantity of seed he may require, (counting five bushels from an acre so mowed,) for the next year's seeding; also a piece of timothy of fair growth, and clean from any of the pests that are becoming so very prevalent in many of our fields. By these precautions—and taking some pains to extirpate those we have already got—we shall soon be wholly rid of them—a matter to be devoutly desired. D.—*Gates.*

AN EASY METHOD OF MAKING CREAM CHEESE.—Take a quart of cream, or if not desired very rich, add 1 pint of new milk; warm it in hot water until it is about the heat of milk from the cow. Add a table-spoonful of rennet, let it stand till thick, then break it slightly with a spoon, and place it in a frame 8 inches square and four inches deep, in which previously put a fine canvass cloth; press it slightly with a weight, let it stand 12 hours, then put a finer cloth in the frame—a little powdered salt should be put over the cloth. It will be fit for use in a day or two.

WARTS ON HORSES.—Muriatic acid, applied daily with a feather, is a safe and speedy remedy.

AN INTERESTING LETTER FROM MR. JOHNSTON.

NEAR GENEVA, 20th Aug., 1856.

MR. HARRIS:—Dear Sir: Your favor of the 18th is before me. In answer, I would say that the 25½ acres in wheat adjoining my dwelling gave 847 bushels of wheat, (33½ bushels per acre.) Had it not been for midge, I think it very probable there would have been from 150 to 200 bushels more. I never saw such a display of shocks before.

On the swale, that was entirely prostrated some time before you were here, I was surprised to find the wheat equally as good in quality as any of the upland. Owing to being later in ripening, the straw was still green when we cut it—at the same time we cut the upland; but when the wheat got hard, it was certainly of as good quality as the upland, and, if anything, better, being very thin in the bran and very clear. This shows that *early cutting* makes the best samples.

You would have been surprised to have seen the wheat that grew on the top of the ditches on the low land. The mixing of the subsoil with the surface soil made the straw so stiff that it did not lodge, but was *leaning*, and I never saw such good ears of wheat in my life. One of the ditches through the swale was ninety-six rods long, two feet wide, and over three feet deep on an average. I had, therefore, every chance to see the result of the crop there. You could stand at one end of the drain, and see the difference in the wheat all the way to the other. It was much earlier, and the ears very large.

I have very little doubt but that there is some four or five acres of this swale, that would pay to trench two feet deep; or otherwise draw on some four or five inches of gravel or clay before sowing the wheat. If I live and have good health, I think I shall try one or the other of these plans. I have very little more draining to do, and may as well try something else!

I hear great complaints of the yield of wheat on all the undrained land, while on the drained land the crops are very good—at least all that was sown in good season. *Wheat must be sown from the 5th to the 15th of September, to secure paying crops in these ridge times.*

My corn is in the same field as when you saw it last year. Although the stalks are not so long, yet I think it will yield as well as last year. But there is a great deal of poor corn in the country. Oats around here are good. Barley, they say, does not yield well on threshing. My potatoes are very fine. I have not heard how they are in general. Drained land is fine for *murphys*. I remain yours truly.

JOHN JOHNSTON.

CURE FOR LOCKJAW IN HORSES.—Bleed the horse in the third bar of the mouth, and drench with strong salt water. This method has been known to be successful when all others have failed.

Posts last a vast deal longer in wet soils than in dry, sandy loams—longer in clay than in the richest soil. In peat meadows, the bottom of the posts hold out longer than the tops and the rails.

Soor contains considerable ammonia, and the late Prof. ANDERSON says that it does not benefit the clover plant, while for wheat, timothy and other cereals, it is found most valuable.

HOW TO HARVEST CORN.—A correspondent of the *Michigan Farmer* recommends the following method of harvesting corn:

"Let the corn remain on the stalk until it is dry and fit for the crib. Enter the field with horses and wagon, straddle every fifth row, with a man on each side and a boy in the rear. Break off the ears as rapidly as possible, throwing them into the wagon; this saves carrying or handling over, not being particular about taking off all the husks; secure your corn in any convenient place until winter; a pen of rails will answer. The husks that remain will keep the corn from spoiling in the crib. When you wish to market your corn, put it on a floor, thresh with horses, the husks will not be in the way, rake off, run through a mill, and your corn will be bright and clean, and in first rate condition. Two men and a boy can pick up and crib two hundred and fifty bushels of ears in a day.

"My opinion is, if farmers will adhere strictly to these rules, they may save half their labor, and have better crops. This is quite an item. Try it."

SALT AND LIME FOR HAY.—In the forthcoming *Transactions of the New-York State Agricultural Society*, L. D. CLIFF, of Putnam Co., N. Y., says:

"I have used, for several years, the following preparation for my hay: *Two parts of slacked or quick lime to one of salt.* The salt to be mixed with the lime until entirely dissolved and the mass becomes a powder. Upon a load or ton of hay, at intervals in mowing or stacking, use from ten to fifteen quarts, dusted evenly over the hay. I formerly used salt alone, but the men would often use too much, so that it was injurious to the stock. The above mixture obviates this—it corrects the acidity and sourness of the hay, and I do not recollect a sick animal since I commenced its use. Horses troubled with the heaves are greatly relieved by feeding upon hay thus prepared, and I am satisfied it is a preventive of the heaves. My horses are kept in the stable the year round, well groomed, and they do far more work and wear longer than when suffered to run during the summer."

TO CLEAN CHESS-OUT OF SEED WHEAT.—The *Southern Farmer* copies the article on this subject from the last *Genesee Farmer*, and remarks:

"We can fully certify to the efficiency of the mode recommended in the preceding article for cleaning the land of cheat. We practised it more than twenty years ago, preparing the seed exactly in the manner now described, and with entire success. Like many other of our brother farmers who too hastily jump to conclusions, we entertained the opinion for a while that wheat was transformed to cheat; but with the use of *clean seed* our crops were purged of the pest. And so, there can be no doubt, would be the experience of every farmer, if he would adopt the same plan. The result would be attended with a double advantage—he would reap clean merchantable wheat, commanding the best prices in the market; and he would establish to his own satisfaction that wheat will not and cannot degenerate to cheat.

SHEEP DISTEMPER.—An experienced correspondent of the *Country Gentleman* furnishes the following:

"I some time since had a distemper among my sheep that no one could account for. They would begin to stagger, and within an hour or two would die. As soon as moved, there would be a loathsome and bad smelling yellow water run from their noses, which soon became intolerable. I put tar on stones (which were plenty there,) and then put plenty of salt on to the tar, which cured them completely after eating it."

TREATMENT OF A CONTRARY HORSE.—When a horse gets in a way of being contrary, and will not go forward at all, it is common to apply the whip freely. Solomon says, "a whip for the horse," but he may not refer to any cases of this kind. At any rate, it is often where thus used, of no benefit only the gratification of the enraged driver. A method which we have known more successful, is to treat the animal very kindly. His contrary disposition is usually the result of having been fretted in some way, and kindness may overcome it. Make much of him at all times. Speak gently to him, and so often that he will become accustomed to your voice. When he stops when attached to the carriage or load, and will not move, approach him in the same gentle manner. Stroke the mane, and pat the hand frequently on his head. Means of this kind will have a powerful tendency to overcome his stubbornness, as brutes feel the power of kindness. We believe from what we have seen, that young horses especially, in nine cases out of ten, may be successfully cured of contrary habits in this way, while the application of the whip would only increase the difficulty.

BLACKING FOR HARNESS.—Melt four ounces of mutton suet with twelve ounces of beeswax; add twelve ounces of sugar candy, four ounces of soft-soap dissolved in water, and two ounces of indigo finely powdered. When melted and well mixed, add half a pint of turpentine. Lay it on the harness with a sponge, and polish off with a brush.

Here is another recipe:—Take three sticks of the best black sealing-wax, dissolved in half a pint of spirits of wine; to be kept in a glass bottle, and well shaken previous to use. Applied with a soft sponge.

Another recipe for black varnish is the following: Best sealing-wax, half an ounce; rectified spirits of wine, two ounces; powder the sealing-wax, and put it in with the spirits of wine, into a four ounce phial; digest them in a sand heat or near the fire, till dissolved. Lay it on warm with a fine hair brush. Spirits of turpentine may be used instead of spirits of wine.

GOVERNMENTAL DEPOTS FOR STALLIONS.—In France and Germany, the establishment of governmental *haras* or *depots* for the best stallions that can be found, in various parts of the country, and in such localities as are easily accessible to a given district, has been attended with the best possible results; and at this moment France can boast of several breeds which, as cart-horses, are second to none in the world for endurance, strength, and activity, if not for the more showy points of bulk and symmetry. At the recent exhibition of the Royal Ag. Society, two very good specimens of the Bolognese breed were shown, and every one admired their trotting action; combining speed with manifest power.

CATTLE SWALLOWING NAILS.—A correspondent of the *Homestead*, S. W. BARTLETT, of East Windsor, Conn., tells a case that fell under his own observation, of indigestion and non-thrift of some Durham cattle. Two of them when slaughtered were found to have *nearly a pint of rusty shingle nails* in their stomachs. The owner had re-shingled his barns after they were filled with hay; the old nails had fallen between the roof boards upon the hay, and had passed into the stomachs of the cattle.

IMPORTANT TO FARMERS.—A learned lawyer of this city has, after full investigation of the subject, given it as his opinion that a man's claim to land, if good at the surface, is good downwards to the centre of the earth. This must be encouraging to those farmers, who, if we may judge from their scratching only four or five inches of the surface, thought they owned only that amount of the land. They may now go down as far as they like and turn up untold wealth, which they have not heretofore been aware of, and have no fear of an action for trespass upon other people's domains. —*Louisville Democrat*.

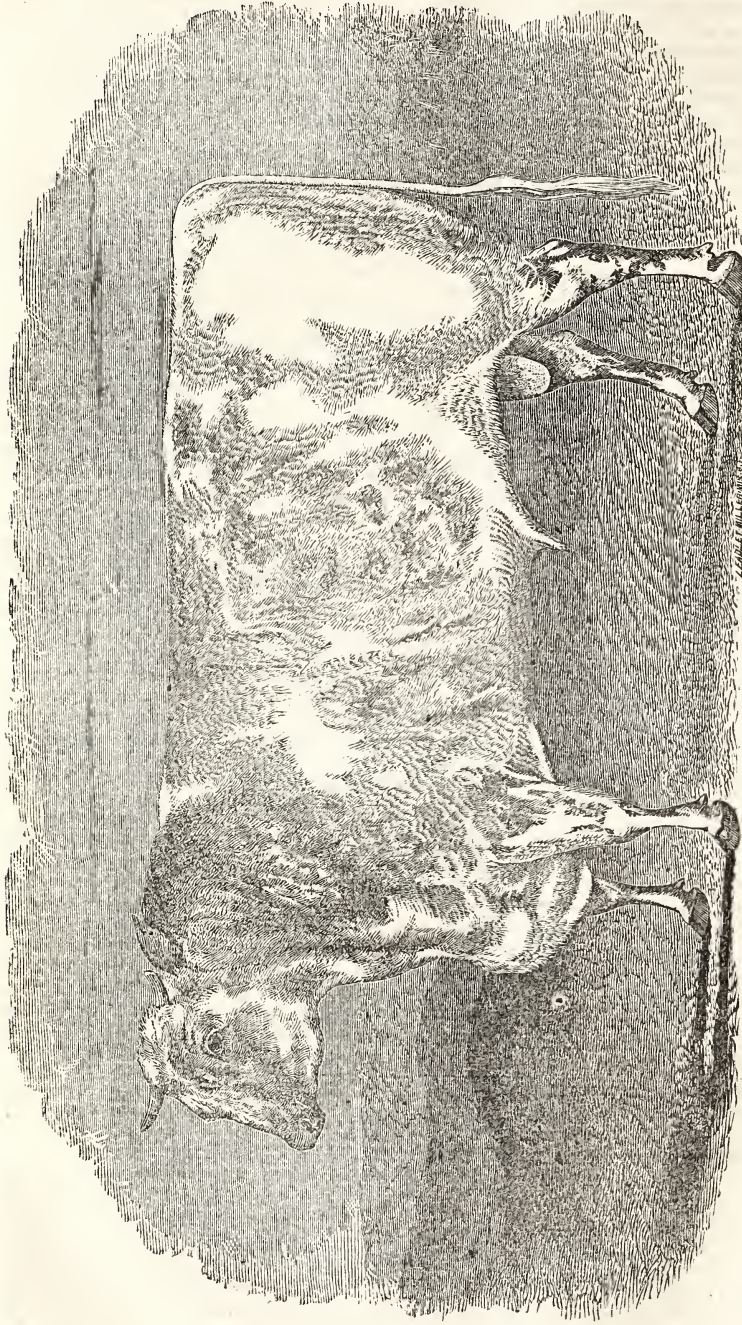
Apropos to this is the following:

HOW TO MAKE ONE FARM EQUAL TO THREE.—In a recent address before the Ohio State Agricultural Society, G. T. STEWARD, Esq., thus spoke on this subject:

"Many farmers are destroying the productiveness of their farms by shallow work. As they find their crops are diminishing, they think only of extending their acres of surface, as they suppose their title deeds only give them a right to six inches of earth. If they will take their deeds, study their meaning, and apply the lesson to their fields, they will soon realize in three fold crops, that the law has given them three farms where they supposed they had only one; in other words, that the subsoil brought up and combined with top soil, and enriched with the atmospheric influences, and those other elements which agricultural science teaches them to apply to their ground, will increase three fold the measure of its productiveness."

CURING CORN FOR FODDER.—I see in the last *Country Gentleman*, an inquiry about securing broadcast corn for winter. I have tried many ways, but have only succeeded well with all my crop thus: I set crotches in the ground, 12 or 15 feet apart, laying a pole in the crotches, say 7 to 8 feet above the ground. Commence at one end, laying rails or poles, 1½ feet apart, about 10 or 11 feet long, on each side, one end on the pole and the other on the ground, similar to the rafters of a tolerably flat roof—lay a few stalks crosswise of the poles or rails, to prevent the fodder from falling through—then commence standing the longest or straightest stalks, butt down, on the ground—put a course the length of the fodder house or stack on both sides—the next course butts up, and so on until the stack is finished, covering the top with coarse hay or long straw. It may be put on one foot thick, and covered again in the same way another foot thick, if desired, after standing a week or two in dry weather, leaving the frame open at both ends. I cut with a short cradle, when the corn is not very tall and stands up well, or with grass knives when down or stout, leaving it lying on the ground for three or four days before taking it up. When well put up it is sure to keep well. At the commencement of winter the north end may be closed up if desired, and filled inside.—LEWIS BAILEY, *Fairfax Co., Va., in Country Gent.*

SHEEP MANURE ON MEADOWS.—Sheep manure is No. 1, for grass lands, which can easily and effectually be manured by building light movable sheds, open on one end; the sills to be made like sled runners on the ends; put them in the lots to be manured, and when the sheep occupy it for a lodging place long enough to give the ground in and around it a good coat of manure, hitch a team to it and remove it two or three rods, and so on. When you get across the lot, hitch on to the other end and draw it back over a new strip of land, and so on until the whole lot is manured in this way. The land will show the effect of the top dressing for many years.



MASTER BUTTERFLY—A SHORT HORN BULL.

BRED BY AND THE PROPERTY OF LIEUTENANT-COLONEL TOWNLEY, TOWNLEY PARK, BURNLEY, LANCASHIRE, ENGLAND.

MASTER BUTTERFLY was got by Frederick (11489), dam (Butterfly) by Jeweller (10354), g. d. (Buttercup) by Garrick (3863), g. d. (Barnpton Rose) by Expectation (1988), by Belzoni (1709), by Cornus (1861), by Denton (198), a son of Comet (155). In 1854, he won the first prize of £10 at the Royal Agricultural Society's Meeting, held at Lincoln; also the first prize of £5 at the Royal North Lancashire Agricultural Society's Meeting; as well as a piece of plate as the best of all the prize male animals. In 1855, he won the first prize of £5 and Silver Medal, at the Royal Dublin Society's Meeting; and the Gold Medal as the best of all the prize bulls, there being 190 bulls exhibited. At the Royal Ag. Society's Meeting, held at Carlisle, July 1856, he won the first prize of £25, for yearling bulls. At the last Meeting of the Royal Ag. Society, held at Chelmsford, July 1856, he obtained the first prize of £30, in Class 1, bulls over two and under four years old, and was afterwards sold to go to Australia, for the unprecedented sum of one thousand guineas!



Horticultural Department.

THE CULTIVATION OF THE STRAWBERRY.

MESSERS. EDITORS:—You have frequently favored us with articles on the cultivation of the strawberry. You have given pictures of strawberries that have made my mouth water, and have repeatedly urged every farmer to raise at least enough strawberries to keep his own table supplied with this delicious fruit; but though I have read all these articles, I am still ignorant of many things which I suppose are necessary to success. I have determined to plant out a few beds of strawberries, and would be glad if you would write one more article on this subject, so plain that he who runs may read—so simple that the dull-est cannot fail to understand, and yet so full that one who has never raised a strawberry, and seldom seen any but wild plants, can go to work understandingly, and with some probability of success. Doubtless this is not an easy task, but your kindness in answering other inquiries which, at various times, I have made through the *Genesee Farmer*, leads me to hope that you will also favor me with the desired information.

Pendleton, N. Y., Aug. 22, 1856.

J. W.

P. S. My object is to raise the strawberries for my own use, and not for market.

If our correspondent has read all the articles that have appeared in the *Genesee Farmer* for a few years past, on the cultivation of the strawberry, and is still as ignorant as he pretends to be, we fear his case is hopeless. However, we will once more do our best to enlighten him.

The strawberry is so named from the ancient practice of laying *straw* between the rows, for the purpose of keeping the ground moist and the fruit clean. The fruit is a fleshy receptacle studded with seeds.

The plants can be propagated by seeds. If sown immediately after being gathered, the seed will produce plants which will come into bearing the following year. The alpine and wood species come quite true from seeds, and produce finer fruit than when propagated in any other way. The seed of the other species does not produce plants true to their character, and is never sown except for the purpose of raising new varieties.

The strawberry plant sends out suckers and runners every summer. The latter throw out roots at every joint; and thus one plant will produce quite a number of new plants in the course of the summer. If these new plants are separated from the parent plant and from each other, and planted in new beds where they have sufficient room, they will bear fruit the next year. This is the usual mode of propagation.

In regard to the best time to take up and transplant these new plants there is some difference of opinion. PARDEE, in his "Complete Manual for the Cultivation of the Strawberry," says: "We have transplanted strawberry plants successfully for years, every month from March until the 20th of October, without difficulty. With mulching, shade and water, judiciously applied, it can be well done at any time."

KEENS, a celebrated English strawberry grower, says: "With respect to the time of planting, I have always found the month of March better than any other. Sometimes, when my crops have failed, I have had runners planted in the autumn, for the following year, *but these have always disappointed my expectations.*" Spring planting is unquestionably the best, on the whole; but strawberries frequently do well when planted in the summer or fall, and yield a larger crop the first year. Much care, however, is necessary.

Unless the weather is showery, the plants before they are taken up, and after they are planted, will require *thorough* watering. If plants can be obtained from your own garden or in the immediate vicinity, be careful to take them up with as much soil adhering to the roots as possible. To do this the soil must be moist, and should be pressed into a ball round each root by the hand. In this way, you may be sure the plants will grow if properly watered. September is perhaps the best month for fall planting; though when planted in August a better crop may be expected the next summer—if the plants do well. This season has been so dry, that it would have been next to impossible to have successfully transplanted strawberries in August. We have now had a good rain, and it may be done with safety this month.

As you are a young beginner, it will not be well to plant too many varieties. In regard to the best kinds, see article in the last number.

As you have plenty of land, we would advise you to plant in rows three feet apart, and one foot in the rows. Much has been said in regard to the soil and situation best adapted to strawberries. The fact is, however, strawberries do as well on any or all soils, as corn or potatoes, and are just as easily raised.

Strawberries require a large quantity of water; and the great success of the London gardeners in raising such *large* strawberries, is mainly due to their system of irrigation. A moist soil is unquestionably best adapted to the cultivation of strawberries; but it is equally certain that stagnant water will injure or destroy the crop. As a general rule, it is impossible to raise a good crop of strawberries on ground that is not thoroughly *underdrained*. It should also be subsoiled, or spaded eighteen inches deep; and if this is done a year before hand, so much the better. It is very important to keep the land free from weeds; and if it is plowed or spaded unusually deep just before the plants are set out, it will, in all probability, throw up an unusual quantity of weeds. Subsoiling, so far as our experience goes, always has this effect. If the plants, therefore, are to be set out in the fall, the land should be subsoiled or spaded deep in the spring or fall preceding, and cultivated with some hoed crop during the summer. In this way, if the ground is well hoed and cleaned, there will be little trouble from weeds. This thorough cleaning of the ground before planting is a point of great importance.

Much has been written about *animal* and *vegetable* manures for strawberries; some contending that the

former are injurious while the latter are beneficial. In our opinion, there is no truth in this. The recipes for watering with a solution of various salts, corresponding to the ashes of the plant, are also unworthy of attention. Those who claim to have received such great advantage from these salts, should have ascertained what effect an equal quantity of pure water would have had. This they have not done. The fact is, our cultivated plants are composed precisely of the same elements; the only difference being in the relative proportions in which they exist; and it is found that a plant which contains a large proportion of potash, for instance, receives no more benefit from an application of potash, than a plant which contains but a relatively small proportion. In some instances, indeed, the reverse is true. You need not, therefore, trouble yourself about sal-soda, sal-ammoniac, &c. Let your land be well prepared, and enriched to a considerable depth with barn-yard manure, leaf mould, or muck compost, and the plants will find all the elements they need.

If you set the plants in the fall, on ordinary loamy soil, it is better to keep the ground bare, and to use the hoe frequently, than to mulch. It will be well, however, to cover the ground with litter or leaf compost, before winter sets in, or the young plants may be injured. We deem this indispensable for recently transplanted strawberries, and an advantage in all cases. When strawberries are planted in the spring, especially if the soil is sandy, it is best to mulch them before the hot, dry weather commences. Tan-bark, placed so thick (say from one to two inches) that the weeds cannot get through, is the best mulch, although litter, leaves, or anything that will check evaporation from the soil, will answer. If our correspondent thinks mulching too much trouble, plant the strawberries on loamy soil, that has been well prepared, and it may be dispensed with, though it is always advantageous.

If these hasty hints are not as "plain," "simple," and as "full," as our correspondent wishes, we shall be happy to answer any further questions on the subject he has to propound.

CALIFORNIA HEDGE PLANTS.—The *California Farmer* says: "California can boast of several fine evergreen plants that would make close, secure and handsome hedges. Our dwarf evergreen oak, the Escalonia, and the Ceonothus, each make very beautiful hedges. The two last we can attest to, as we can refer our readers to the magnificent hedge of Escalonia around the flower grounds at Smith's Gardens, near this city—and the very beautiful Ceonothus hedge around the flower garden of William Fell, Esq., at San Souci. These hedges are worthy of a visit."

HYBRIDIZATION.—It seems probable from Deut. xxii. 9—"Thou shalt not sow thy vineyard with divers seeds: lest the fruit of thy seed which thou hast sown, and the fruit of thy vineyard, be defiled,"—that the Jews—and probably the Egyptians—were aware of the effect of permitting one flower to be impregnated by the pollen of another.

GARDENING A HIGHER ART THAN ARCHITECTURE.—Lord Bacon remarks: "When ages grow to civility and elegance, men come to build stately sooner than to garden finely, as if gardening were the greater perfection."

TRANSPLANTING LARGE TREES.

It is, to us, no small matter of congratulation, that the attention of the public is being yearly more and more turned to the improvement of our rural homes by the planting of fruit and ornamental trees. We admire, we *love* trees. They beautify, they enrich the country. From our earliest youth, we have always considered a tree one of the most beautiful objects of nature. We shall never forget the first time, although but eight years of age, we beheld the noble, stately and majestic elm, which towers over the village green, the pride of the citizens of Pittsfield, in Massachusetts. It is one of the monarchs of the primeval forest, and is cherished and nursed with the greatest care at the present time. It may be seen for miles before reaching the village. What is it, let us ask, that renders our eastern towns and villages so beautiful, so lovely, so enchanting? We answer, it is trees. Let us then commence at once and set out trees.

Spring is the season we find the most pleasure in making our rural improvements, and from this circumstance, probably, it has become the most general season for planting trees; but in our experience fall planting has been the most successful, particularly for fruit and deciduous trees, especially when droughts occur, as the trees when planted in autumn suffer little or none from that cause, when those set out in the spring often perish in consequence of it.

It is a great fault with many, in digging holes for trees, to make them altogether too small and contracted, and instead of spreading the small roots, as they should do, they are very apt to crowd them down with the spade, not only bruising but cutting them off, to the great injury of the tree. Our practice has been—and we have been very successful, too, particularly with forest trees—to make the holes somewhat larger than is necessary to admit the roots in their natural position, and of sufficient depth to allow the tree to be placed two or three inches deeper than it was before transplanting. If there be any broken or wounded roots, we cut them off. Care should be taken, when the tree is taken up, to have as much of the earth adhere to the roots as possible. Previous to placing the tree, let from two to four shovels full of composted manure, or what is still better, vegetable mould taken from the surface in a wood lot, in proportion to the size of the tree, be incorporated with the earth in the hole, and the whole made fine previous to filling it in; and during the filling in of the earth, let the tree be worked to and fro, in order that the finer particles of the soil may be admitted, and fill the spaces under the roots. In order to make it more certain, one or two pails full of rain or brook water thrown on the roots, will cause the earth to adhere more firmly to them; and when completely filled up, let the ground be well trodden down, and finish by making a hollow or basin around the tree to catch the rain and convey it to the roots, or to receive the watering which it will be necessary to give it, should the season prove dry. If the tree is small and the roots scant, it will be necessary to drive a tree beside and tie the tree to it, with a bandage of some soft material, to prevent chafing, as well as to prevent the winds from loosening the small roots. When larger trees are planted, that have wide spreading roots, rocks placed around the trunk will answer a good purpose.

A tree properly planted will grow as much in five years, as one carelessly and badly set will in ten; and often the chance of living is dependent on this slight circumstance.

In transplanting evergreens we have been particularly fortunate, seldom losing a tree. We planted quite a number of larches, arbor vitæ and cypress last year, on Staten Island, and only lost one. In the summer of 1838, when living on our farm, near the city of Albany, we planted in a clump, near the house, thirty white pines, some fifteen or sixteen feet in height, on the 25th day of May. It was a drizzling rain when we accompanied our men into the field where these pines grew. We first caused a trench to be dug around the tree, leaving a ball of earth about the roots three feet in diameter; then pulling the top over, a man on the opposite side cut off the small tap-roots, then hauling it over the other side, the roots were also cut. A stone sled was then put under the ball of earth, and the tree righted, with ropes attached to the top, and then started by a yoke of cattle—the men walking by the side, in opposite directions, with the ropes to keep the tree in a perpendicular position. When arrived at the pit where we intended the tree should stand, the oxen were disengaged, the tree moved from the sled into the pit, and the earth carefully and firmly placed around the roots. This was repeated until the whole number of thirty were set out. They all lived, with the exception of four or five on the outer side, which were disturbed by a severe wind in the fall after, by loosening the roots. Those left flourished and grew vigorously, and when we last saw them, about three years ago, they were from forty to fifty feet in height, with trunks of from ten to twelve inches in diameter.

In the month of June following, we transferred to our poultry-yard, when the mercury stood at 80°, six larches from a swamp, taking the same pains in setting them, and they all lived, and are now large and flourishing trees. C. N. B.—*Rochester.*

THE OSAGE ORANGE AS A HEDGE PLANT.—A gentleman travelling in the State of Illinois, gives the *Prairie Farmer* his opinion in regard to the rapidity of growth, hardiness, and general adaptability of Osage Orange as a hedge plant. He appears to talk understandingly on the subject, and "has been particular to be posted up." We are glad to have such a favorable report.

"I have seen it," he says, "when but three years old, successfully defy the intrusion of any animal bigger than a rabbit, into the field it was to guard! At four years growth, the fence, attended to *properly*, is not only reliable as an effective fence against all manner of intruding animals, but becomes, also, a most beautiful ornament. But another question arises—Will the Osage Orange stand this cold climate? This question must certainly be permanently settled; for if it would not be killed, *root and branch*, by a winter as severe as last winter was, it *never will* be killed by cold weather. I see a great many hedges around about Henry and Magnolia, and other places as far north, that seem scarcely to have been at all affected by the winter. I see none that have been effectually killed. Those that have at all been injured, have been injured only to the ground—the Orange springing up and growing thriftily from the roots. The Osage Orange then, we may say, is now demonstrated to be the great *desideratum* for fence."

CURCULIO ON THE PEACH.

MESSRS. EDITORS:—At your request, I furnish you my views of the curculio on the peach. I have made the depredations of the *Turk* a close study for a number of years. He begins his destruction as soon as the peach is formed, or when it is the size of a small June pea, and continues his work incessantly until the stone of the fruit is quite hard—that is, from the first to the fifteenth of July—after which his injury to the peach seems to cease all at once—knowing by instinct that the stone has become hard, and therefore the egg laid after that could not be of any avail, as it could not reach the heart of the fruit. I have never known the curculio to puncture the peach after the stone was hard; although you may find them on the tree, they seem harmless after that date. This fact is very important to those who wish to thin their fruit, so it will be good size, for they cannot do it with safety until the 10th to the 15th of the month; afterward you need have no fears.

The fact is astonishing, how much the United States loses by the curculio. It may be counted by hundreds of thousands, and even millions, annually; and yet the ingenuity of man has not been able to prevent his operations. The most successful means I have found, is the use of the finger and thumb. He does not confine his operations to the peach, but goes at the apricots, nectarines, plums, apples and pears. He begins operations by making a small puncture, then increases its depth until it is sufficiently deep, and then lays an egg in it, and instead of covering the furze of the peach over the puncture with his bill, he takes his fore feet and does the work.

I sincerely hope every lover of fruit will investigate this subject, and make experiments; peradventure we may arrest his further destruction.

A. PINNEY.

Clarkson, N. Y., Aug. 13th, 1856.

PROGRESS IN HORTICULTURE.—Gardening, like most other arts, had its origin in the supply of a primitive want; and, as wants grew into desires, and desires increased, and became more luxurious and refined, its objects and its province extended; till from an enclosure of a few square yards, containing, as Horace Walpole has said, "a gooseberry bush and a cabbage," it has expanded to a park of several miles in circuit, its boundaries lost in forest scenery, —a palace bosomed in wood near its centre;—the intermediate space varied by artificial lakes or rivers, plantations, pleasure-grounds, lawns, flower-gardens, hot-houses, orchards, and kitchen-gardens:—producing for the table of the owner and his guests, the fruits, flowers, and culinary vegetables of every climate of the world!—displaying the finest verdant landscapes to invite him to exercise and recreation, by walking over velvet turf, or along smooth and firm gravel walks, sheltered, shady, or open, in near scenes; or gliding with horses and chariots through "rides" and "drives" "of various view" in distant ones.

SIR William Temple has observed, that the love of gardens is the only passion which augments with age, and adds, that all men eat fruit who can get it: so that the choice is only, whether one will eat good or bad; and all things produced in a garden, whether of salads or fruits, a poor man will eat better who has a garden of his own, than a rich man who has none.

FERTILIZERS FOR FRUIT TREES.

In relation to appropriate fertilizers for trees a diversity of opinion prevails. All agree that certain substances exist in plants and trees, and that these must be contained in the soil to produce growth, elaboration and perfection. To supply these, some advocate the use of what are called "special manures," others ridicule the idea. I would suggest whether this is not a difference in language, rather than in principle; for in special fertilizers, the first make simply those which correspond with the constituents of the crop; but are not the second careful to select and apply manures which contain those elements? and do they not, in practice, affix the seal of their approbation to the theory which they oppose? Explode this doctrine, and do you not destroy the principle of manuring, and the necessity of a rotation of crops? Trees exhaust the soil of certain ingredients, and, like animals, must have their appropriate food. All know how difficult it is to make a fruit tree flourish on the spot from which an old tree of the same species has been removed.

The great practical question now agitating the community is, how shall we ascertain what fertilizing elements are appropriate to a particular species of vegetation? To this two replies are rendered. Some say, analyze the crop; others, the soil. Each, I think, maintains a truth; and both together, nearly the whole truth. We need the analysis of the crop to teach us its ingredients, and that of the soil to ascertain whether it contains those ingredients; and if it does not, what fertilizer must be applied to supply them. Thus, by analysis, we learn that nearly a quarter part of the constituents of the pear, the grape, and the strawberry, consists of potash. This abounds in new soils, and peculiarly adapts them to the production of these fruits, but having been extracted from soils long under cultivation, it is supplied by wood ashes or potash, the value of which has of late greatly increased in the estimation of cultivators.

Among the arts of modern civilization, universal experience attests to the great advantage of "mulching" the soil around fruit trees, as a means of fertilization and of preservation from drouth and heat, so common with us in midsummer. In illustration of this, experiment has proved that on dry soils, where the earth has been strewn with straw, the crops have been as large without manure as with it, where evaporation has disengaged the fertilizing elements of the soil.—MARSHALL P. WILDER, in *Patent Office Report*.

REMARKS.—MR. WILDER is President of the American Pomological Society, and an intelligent, experienced fruit-grower. His opinions, therefore, are entitled to great consideration. He is evidently in favor of "special manures," and of analyzing the crop and the soil in order to determine the "fertilizing elements appropriate for a particular species of vegetation." Entertaining somewhat different opinions, we would most respectfully point out our reasons for rejecting the doctrine of special manures, as taught in the above article.

Fruit trees, and all our cultivated plants, are composed of precisely the same elements, some fourteen in number, four of which are termed organic, and ten inorganic. The former exist in the atmosphere, and may be inhaled by the leaves of plants; the latter are obtained only from the soil. If every one of these ten inorganic elements do not exist in the soil, no plant fit for food can grow on that soil, unless the lacking element or elements are supplied in manure. On this point all are agreed. Furthermore, we are willing to admit that it matters not whether the miss-

ing element is supplied in ordinary barn-yard manure, or in any artificial manure, or in its chemically pure state. To ascertain whether any particular soil is deficient in one or more of the elements of plants, it has been proposed, as Mr. WILDER states, to "analyze the soil." Such an analysis is unnecessary, for if all plants contain the same elements, and no plant can grow on a soil unless it contains every one of the inorganic elements of plants, it follows that if the soil does produce a single spear of grass, a Canada thistle or a white daisy, it contains every one of the inorganic elements of plants. So that to "analyze the soil," for the purpose of ascertaining whether it is destitute of any element of plants, is unnecessary, if any plant is growing on the soil. If, therefore, a soil does not produce so much as a blade of quack-grass, and cannot be made to produce a plant of any kind by tillage alone, it may be necessary to analyze it, in order to ascertain which of the ten inorganic elements are missing;—on any other soil it is certainly useless.

"But" says the advocate of soil analysis, "the soil may contain enough of every element for the production of one species of plant, and not enough for another species which requires a larger quantity." This is true. *But no soil analysis can determine the point.* For instance, a soil ten inches deep would weigh about ten thousand tons, gross, per acre. A crop of wheat of fifty bushels per acre contains 40 lbs. of phosphoric acid. This 40 lbs. mixed up with 22,400,000 lbs. of soil, is one part in 560,000. Now, we have had some experience in determining phosphoric acid, and we always think that when duplicate analyses of the same soil agree within one ten thousandth, the analyses have been properly made. Certainly no one who has ever made a phosphoric acid analysis will pretend for a moment that he can determine one part in over half a million. No chemist, therefore, can tell whether a soil contains phosphoric acid for one hundred bushels of wheat, or only for fifty. And we hazard nothing in saying that he cannot tell whether it contains enough for 1000 bushels or 2000 bushels.

We do not, therefore, "need the analysis of the crop to teach us its ingredients," nor "that of the soil to ascertain whether it contains those ingredients;" for the ingredients of all crops are the same, and all soils that produce any plant at all contain all these ingredients, and analysis will not tell us whether they exist in sufficient quantity or not.

There is another view of the doctrine of "special manures," which must not be overlooked. It is now generally admitted that all our cultivated plants contain the same ingredients, and that therefore, there is no "special" element required for one plant, that is not needful for the growth of another. But there are some plants which contain much more of some particular element, than other plants. For instance, according to the analyses of RICHARDSON, (See Annual Report of the Progress of Chemistry, Part 5, London edition, page 318,) the ash of the cherry contains 1.12 per cent. of soda, that of the pear 8.52, and that of the apple 26.09. The advocates of special manures would from this recommend a soil or manure for apples which contains a large quantity of soda, while for cherries—the ash of which contains little soda but abounds in potash (51.85 per cent.)—they would recommend a soil or manure which contains little or no soda and much potash. This is in

fact the theory of "special manures," as understood by all intelligent writers on the science of manuring.

Baron LEIBIG, though not the originator, is the popular promulgator of this doctrine. Its plausibility, and its learned advocate's reputation, gave it immense popularity when first announced, and we cannot be surprised, however much we may regret, that it forms the woof or warp of nearly all our agricultural and horticultural literature of the past fifteen years. Indeed, so true is this, that Mr. WILDER may well exclaim: "Explode this doctrine, and do you not destroy the principle of manuring?" Nevertheless, we cannot close our eyes to the fact that however plausible it may be, this doctrine is simply a *deduction*. There is no experimental proof of its truth, while there are many isolated facts which show that it is not true in all cases.

So far as fruit trees are concerned, we are without experimental evidence either to sustain or refute this doctrine. We are, therefore, left to analogy. The experiments made during the last thirteen years at Rothamsted have, among other things, thrown much light on the chemical requirements of wheat and turnips. The ash of wheat contains 50 per cent. of phosphoric acid, that of turnips 10 per cent. LEIBIG has said, and the doctrine of "special manures" would lead us to expect, that wheat requires a soil or manure much richer in available phosphoric acid than that required for turnips. But what is the fact? It has been proved that for the growth of turnips, a soil requires a much greater quantity of available phosphoric acid, than to produce wheat! This fact cannot be doubted; the experiments that have been made at Rothamsted and in hundreds of other places, and the general experience of British farmers, place it beyond all cavil. We could mention other facts that militate against the doctrine of special manures, but it is unnecessary; for as there is not a single well established fact that sustains the doctrine, and as it has been proved erroneous in the only case in which it has been fairly tried, we have no certainty that it may not be equally untrue in all other cases.

While, as we have said, there are no carefully conducted experiments, that demonstrate the truth or fallacy of this doctrine, as applied to horticultural plants, there are many observed facts that would of themselves throw doubt on its correctness. Thus the vine contains a large proportion of potash, (according to CRASSO, the wood contains 44.15 per cent., and that of the juice of ripe grapes 71.85 per cent.,) and we should expect that the manures best suited for grape vines would be those containing much potash. But is it so? We believe practical experience answers no. The carcasses of animals, abounding in ammonia and phosphoric acid, are found to produce an astonishingly beneficial effect on the growth of grape vines; and bone-dust, which contains a large quantity of phosphoric acid and ammonia, and very little potash, is a highly esteemed manure. A short time since, an intelligent gentleman of this city, a close observer and successful fruit-grower, informed us that a few years ago he buried a considerable quantity of horn-piths beneath his grape vines. Having to remove his vines some time afterwards, he found that the roots had pushed through the soil to the horn-piths, and literally encased them with a dense mat of small fibrous roots. The vine was evidently fond of this kind of food, and imbibed it in large quantities. Now, horn-piths abound in ammo-

nia and phosphoric acid, and contain very little potash! And thus, while as Mr. WILDER says: "Nearly a quarter part of the pear, [RICHARDSON found 54.69 per cent. of potash in the ash of the pear,] the grape and the strawberry consists of potash," we are not warranted in concluding that it is the potash which "abounds in new soils," that "peculiarly adapts them to the production of these fruits." The turnip plant abounds in potash, (from 40 to 50 per cent. of the ash,) while it contains comparatively little phosphate of lime; and yet potash is not a special manure for turnips, and is never used for this purpose, while phosphate of lime has an astonishing effect on them—one manufacturer alone, as he himself informed us, selling 12,000 tons of superphosphate of lime for this purpose, last year, in Great Britain. All who have used superphosphate of lime for turnips, must have observed that when the turnip came in direct contact with the superphosphate, an immense number of small fibrous roots are thrown out, as in the case of the vines mentioned above. Furthermore, we have seen the roots of the turnip pushed out, laterally, between three and four feet long, in order to reach superphosphate. Now we know that superphosphate is a *special* manure for turnips, and is it not probable, from the facts mentioned above, that phosphates and ammonia, rather than potash, are the *special* manures for the vine? Do not these facts warrant us in asking such influential writers on horticulture as Mr. WILDER, to give this whole subject of "special manures," and soil analyses, a careful reconsideration?

CARE, LABOR AND THOUGHT IN HORTICULTURE.—An ancient Roman gardener, C. FURINUS CRESINUS, PLINY informs us, was so successful in raising fruits and vegetables, that he was accused before the Senate of practising magic, and was obliged to justify himself by displaying his tools. As he did so he exclaimed: "These are the implements of magic which I use, but I cannot show you the cares, the toils and the anxious thoughts which occupy me day and night."

GREAT GROWTH OF A PAWLONIA.—A Pawlonia tree in the garden of our friend BROWN, of the *Ohio Farmer*, killed last winter by the cold, has sent up a shoot from the crown, that has now attained the height of twelve feet, with a diameter, at one foot from the ground, of three inches. Many of the leaves are from two feet to twenty-eight inches across. It has also several lateral branches.

TIE UP YOUR DAHLIAS.—If you have not already staked and tied up your dahlias, do so at once. When not tied, the high winds which frequently prevail at this season, will probably blow down or break the stem, and convert your beautiful "Queen of Autumn" into an eye-sore.

MULCHING AND STIRRING THE SOIL.—The more experience we have in horticultural pursuits, the more we are convinced that we should protect our plants by mulching; and that the drier the season the more frequently should the soil be stirred.

AMERICAN OAKS IN PARIS.—One hundred and thirty American Oaks were planted last year in the city of Paris. Of these eighty-seven took root, and are green and flourishing. The rest, forty-three, are dead.

FRUIT PROSPECTS.

THE crop of fine pears this season will be very light—not over one-third of an average. I have been in several orchards, and the prospect is anything but flattering, especially on the standard trees. My dwarfs will not average over a third of a crop. I observed, however, in Messrs. ELLWANGER & BARRY'S plantation, a good crop.

The crop of apples will also be very short throughout the country—not over one-third of a crop. Fruits generally will probably bring a good price this fall.

Yours, &c.,

A. P.

Clarkson, Monroe Co., N. Y., Aug. 20, 1856.

THE APPLE, PEACH, AND PEAR CROP IN MASS.—

"The apple crop in this vicinity," says the *Boston Transcript*, "will hardly be an average one. In some localities it will be quite short, in others only medium. The peach crop will be very small indeed in most localities. The pear trees will yield a full crop, and the quality now bids fair to be excellent. The recent wet and foggy weather has swelled fruit of this description most remarkably, and a change in the weather will cause it to mature rapidly."

THE N. Y. *Shipping List* remarks that the crop of peaches will be very small—a few Red Rare Ripes are coming in, and bring \$2 per basket, quality poor. The crop of apples, which but a few weeks ago promised to be large, has been found to be greatly reduced, by the long-continued drought. New Jersey, it is now said, will have none for market, and the West, it is expected, will produce half a crop.

THE *Farm Journal*, published at Philadelphia, says: "The apple crop promises tolerably fair. We have during the last four or five weeks passed over a large portion of the territory surrounding Philadelphia, and have observed that the apple trees were nearly all well set with fruit. The young apples appear to be sound and healthy, though we do hear occasionally of instances where the fruit is dropping rapidly."

"Pears are abundant. We have never known a finer prospect, at least never on standard trees."

SNOW A GREAT PROTECTION FROM COLD.—The venerable DAVID THOMAS, of Union Springs, N. Y., for many years a regular correspondent of the *Genesee Farmer*, sends the following note to the *Country Gentleman*:

"Since the date of my last article on *Vernal Flowers*, I have become an octogenarian, and so inform that my 'consulting physician' has forbidden me to write for the Press. But I want to record three facts.

1. The common potato, in several parts of our garden where small tubers were neglected last fall, has come up like a weed, though some of these were not covered more than an inch deep with earth. So I infer that the ground, protected by the snow, was not frozen to that depth, severe as the winter has been.

2. Three bulbs of *Gladiolus floribundus* were forgotten, and remained out all winter, though this plant is from the Cape of Good Hope, and marked *tender* in Loudon's Encyclopedia. They are growing finely; it bears a beautiful flower.

3. *Mimulus guttatus*, marked by a crimson spot or drop on its yellow coral, and which has been treated as a green-house plant, was also forgotten, and left out without any care on our part. It is now in a flourishing condition."

RESERVED FLOWER PLOTS.

THOSE flower-gardens are now looking best, that are fortunate enough to have their blanks (made by the decay of summer flowers) supplied by new plants, raised in beds of reserved ground or in pots. To keep in high order all the exposed plots of flower ground, this plan of aside planting is absolutely necessary. A small space, in the most obscure and sheltered place, will serve the purpose, where the soil is loamy. This is quite important in seed beds, that balls of it may cling to roots in transplanting. Here bulbs may be forced, and plants handsome only in blossom, (as cockscombs, balsams and others,) may be repotted again and again, till they will surprise those who have never experimented with them, when at last brought, in August and September, to the beds to take the places of those that have withered and been removed. Stocks and asters are ready a little later for removal, and half hardy annuals, which are now in bud and bloom, as Mesembryanthemums, Schizanthus, Thunbergia alata, and Calceolarias, may here be raised in portable pots, to adorn waste places. Perhaps these last named plants belong too much to green-house culture for common use, but the plan of reserving ground is practicable and desirable for very common gardening.

PLEASURES OF PLANTING.—Where shall we find so pleasing an appreciation of the pleasures that attest the lover of a garden, as in the following extract of a letter from the venerable Dr. FOTHERGILL:

"Planting and gardening supply a full of entertainment, the most lasting and reasonable of any occupation of this life, pleasures not to be purchased. The trees which we ourselves have planted, the fruits we have raised, the plants we have cultivated, seem to be like our children, a kind of new creation. Their shade, their taste, their fragrance, and their beauties, affect us with a richer repast than any other. What a pleasing scene lies open to a young man of fortune devoted to such amusements. Each succeeding year produces new shades, other fruits, fresh beauties, and brings besides most certain profit. To behold the rising groves, barrenness made fertile, our country improved, ourselves made useful and happy, and posterity enriched! I have seldom known of a man possessed of a taste for such pleasures, who was not at the same time temperate and virtuous."

TO PRODUCE FRUITFULNESS.—The only permanent and general modes of producing fruitfulness in fruit-trees are, supplying the tree with suitable soil; inducing the roots to rise to the surface; and judicious pruning. By attending to these particulars, fruit-trees may be made to produce as much fruit as they have strength to ripen; and any attempt to make them do more cannot fail to produce a lasting injury for the sake of a transient, or, at least, temporary advantage.

PROPAGATE CHOICE FRUIT.—As this is now the fruit season, we would suggest that our readers who wish to cultivate choice varieties, should notice the fruits in their neighborhood, and if there is anything good, when the time comes for grafting, procure scions and graft. There is much good fruit in every county that is not known beyond the place where it originated.

A FEW HINTS ON BUDDING.

BUDDING, or inoculation, is one of the most general, and, in this country, by far the most important method of summer propagation. This operation consists in removing a bud from the variety to be propagated and inserting it on another, which is called the stock. Its success depends upon the following conditions: In the first place, there must be a certain degree of affinity between the stock and the parent plant from which we propose to propagate. Thus, among fruit trees, the Apple, Crab, Pear, Quince, Mespilus, and Mountain Ash, all belong to the same natural family, and may be worked upon each other. The Plum, Apricot, Nectarine, Peach, and Almond, form another natural division, and work upon each other. The Cherry must be worked upon some kind of Cherry, and Currants and Gooseberries go together. In general practice the Apple is worked either upon Apple seedlings, which are called free stocks, or upon the *Doucin* or *Paradise*, which are dwarf-growing species, and are used for the purpose of making small trees. The Pear is worked either upon Pear seedlings, which are called free stocks, or upon the Quince to make dwarfs; occasionally it is worked upon the Mountain Ash and Thorn. But it must be borne in mind, that while all varieties succeed on the Pear seedling, a certain number fail entirely on the other stocks we have named. Lists of such as succeed particularly well on the Quince will be found in previous numbers of the *Horticulturist*. The Cherry is worked either upon seedlings of what is known as the Mazzard, a small, black, sweet cherry, that form a large, robust tree; or for dwarf, on the Mahaleb, a perfumed cherry, which is a small tree, with bitter fruit, about as large as a common pear.

In the second place, the buds must be in a proper state. The shoot, or scion budded from, must be the present season's growth, and it should be mature—that is, it should have completed its growth, which is indicated by the formation of a bud on the point, called the terminal bud, and the buds inserted should be wood buds. On a shoot of this kind, there are a number of buds unsuitable for working; those at the base being but partially developed, are liable to become dormant, and those on the point, where the wood is pithy, perish. The ripening or maturing of the buds must regulate the period of budding, so that the time at which any given tree or class of trees should be worked, depends upon the season, the soil, and other circumstances which control the ripening of wood. In our climate, plums usually complete their growth earlier than other fruit trees, and are, therefore, budded first; we usually have ripe buds by the middle of July. In some cases, when the stocks are likely to stop growing early, it becomes necessary to take the buds before the entire shoots have completed their growth, and then the ripe buds from the middle and lower parts are chosen. Cherries come next, and are generally worked about the first of August. The buds must be mature, or a failure will be certain.

In the third place, the stock must be in the right condition—that is, the bark must lift cleanly and freely from the wood, and there must be a sufficient quantity of sap between the bark and wood to sustain the inserted bud and form a union with it. Stocks, such as the common sorts of Plum, Pear and Cherry, that finish their growth early, must be worked early; while such as the Peach, Quince, wild or native Plum, *Mahaleb* Cherry, &c., that grow late, must be worked late. If these stocks that grow freely till late in the autumn be budded early, the buds will either be covered up—"drowned," as it is technically called—by the rapid formation of a new woody substance, or they will be forced out into premature growth.

A very great degree of sappiness, in either the stock or bud, make up, in part, for the dryness of the other. Thus, in the fall, when plum buds are quite dry, we can work them successfully on stocks that are growing rapidly. This is a very fortunate circumstance, too. Young stocks, with a smooth, clean bark, are more easily and successfully worked than old ones, and when it happens that the latter have to be used, young parts of them should be chosen to insert the bud on.

In localities where buds are liable to injury from freezing and thawing in the winter, the buds are safer on the north side of the stock; and when opposed to danger from wind, they should be inserted on the side facing the point where the most dangerous wind blows from. Attention to this point may obviate the necessity of tying up, which in large practice is an item of some moment.

In the fourth place, the manual operation must be performed with neatness and despatch. If a bud be taken off with ragged edges, or if it be ever so slightly bruised, or if the bark of the stock be not lifted clean without bruising the wood under it, the case will certainly be a failure. The budding-knife must be thin and sharp. A rough-edged razor is no more certain to make a painful shave, than a rough-edged budding-knife is to make an unsuccessful bud. It takes a good knife, a steady hand, and considerable practice, to cut off buds handsomely, well, and quick. As to taking out the particle of wood attached to the bud, it matters little, if the cut be good and not too deep. In taking out the wood, great care is necessary to avoid taking the root of the bud with it. Then when the bud is in its place, it must be well tied up. Nice, smooth, soft strips of bark, like narrow ribands, are the best and most convenient in common use. Every part of the cut must be wrapped so firm as to exclude the air completely; and this should be done as quickly as possible, as the air soon blackens the inner surface of the new parts that are placed in contact.—*The Horticulturist*.

FRUITS OF THE CRIMEA.—New apples, of extraordinary excellence, have been discovered in the Crimea, which will no doubt, find their way to Europe and America. PALLAS speaks of one called the *Sinap Alma*, which keeps till July, and only acquires its excellence before the new year. Wagon loads are annually sent to Moscow, and even St. Petersburg. There is also an autumn apple, thought to be far the best ever tasted in any country. A larger cobnut than heretofore known, is also recorded. Twenty-four varieties of grapes are also cultivated, either for wine or the table. None of them appear to be of importance.—*Edinburgh Phil. Journal*.

BUTTER FROM A TREE.—On the banks of the river Niger, in Africa, they have a tree called *Shea*, from which excellent butter is obtained. The tree resembles our oak, and the fruit resembles the Spanish olive. The kernel of the fruit is dried in the sun and then boiled, and the butter thus obtained is whiter, finer, and of a richer flavor than that which is obtained from the cow, besides keeping sweet a year without salt. The growth and preparation of this article is one of the leading objects of African industry and commerce.—*Exchange*.

NEW TEST FOR THE STRAWBERRY.—At a late meeting of strawberry tasters, amateurs, a decision as to the best variety not having been agreed upon, it was proposed to leave the question to the birds. A careful watch was set, and it was discovered the rogues gave a preference to Burr's New Pine, and we are not sure but they have good reasons for their preference.—*Horticulturist*.

A FEW WORDS ON PLANTING FRUIT TREES.

"A CORRESPONDENT asks: "Is spring or fall the best time to plant fruit trees?" This is a point on which our best authorities disagree. Dr. LINDLEY says: "I entirely agree with Mr. MACNAB, that the earliest time at which planting can be effected is upon the whole the best." * * "If at that time, a root is wounded, a process of granulation, or cicatrization, will commence, just as it does in cuttings; and from that granulation, which is a mere developement of the horizontal cellular system, roots will eventually proceed. Now, it is obvious that since the root *must* be wounded in the process of transplanting, the sooner the wound is made the better, because it has the longer time in which to heal; and therefore the earlier in the autumn transplanting is effected, the less injury will be sustained by the plant submitted to the process; in the technical language of the gardener, it has the more time to establish itself." LONDON says: "The best time for planting an orchard is the autumn, as soon as the trees have ripened their wood, and dropped their leaves. If the work be properly executed at this season, the trees will push out fresh fibres the same year, and be ready and able to push out shoots of considerable vigor in the spring."

— It would be impossible to cite higher authorities. But it must be borne in mind that the climate of England is very different from that of this country. The theory of Dr. LINDLEY is undoubtedly correct, but the practical application of it may be greatly modified by circumstances. Let us examine American authorities on this point.

DOWNING, after giving similar physiological reasons to those of Dr. LINDLEY quoted above, says: "Autumn planting is for this reason greatly to be preferred in all mild climates, and dry soils; and even for very hardy trees, as the apple, in colder latitudes: as the fixed position in the ground which trees planted then get by the autumnal and early spring rains, gives them an advantage, at the next season of growth, over newly removed trees."

"On the other hand, in northern portions of the Union, where the winters commence early, and are severe, spring planting is greatly preferred. * * The proper time in such a climate is as early as the ground is in a fit condition in the spring."

THOMAS says: "For apple and other hardy trees, autumn is perhaps the best. * * The more tender trees, as apricots and peaches, removed to a colder region, may be in some danger, especially if the roots have been much mutilated, and the setting out badly done."

ELLIOTT says: "With nearly all trees and all locations, fall is the best time to transplant." Reasons, same as those given by Dr. LINDLEY.

Our correspondent will perceive that nearly all our best horticultural writers are in favor of fall transplanting. The experience of the last two winters, however, has led us to a somewhat different opinion. It is a generally conceded fact, that a tree recently transplanted is not as hardy as it would have been had it not been disturbed. All accounts from the west agree that the intense cold of the past winter in that region was particularly injurious to all recently planted trees. Thousands and tens of thousands of trees planted last fall were killed outright, and nearly all were much injured. It may be said on the other

hand, that thousands of trees planted in the spring are annually injured or destroyed by the severe droughts of summer. This is true; but is it not attributable to late or careless planting, and negligent after treatment?

The fact is, that success in fruit culture depends much more on the subsequent preparation of the soil, and on the after treatment of the trees, than on the period of planting.

Our correspondent lives in the west, and intends to get his trees from the nurseries in this city. Under such circumstances, we have no hesitancy in advising him to order the trees this fall; unpack them as soon as they arrive; dig a trench in a *dry* soil, and lay them in by the roots, and cover them carefully with soil a few inches deeper than they were in the nursery. Let them remain here during winter, and set them out in the spring as early as the frost is out of the ground. The spot selected for "heeling them in," if possible, should be on the north side of a building, so that the sun cannot shine upon them and start the sap too early in the spring. If sheltered from our cold winds, it would be still better. It would also be advantageous to lay them in the trench in a slanting position, say at an angle of 45°; and if the winter is very severe, the tenderer kinds of trees, such as the peach and apricot, would be the better for having a few branches of evergreens, &c., laid over them. Straw should not be used, as it attracts mice and other vermin.

The advantages of this plan are obvious. The nurserymen are not as busy in the fall as in the spring, and can give more time to packing, &c. You have the first pick of the trees, they can be sent by the cheapest routes, and you are certain of getting them in season for early spring planting!

Whether planted in the spring or in the autumn, the most important point to be attended to, and the one which is generally neglected, is the *preparation of the ground*. Having determined where you will plant your trees, dig a hole three or four feet deep, and if in the course of a week or ten days you find water in it, *you must underdrain*. It is the veriest folly to expect a good orchard on land which at any season of the year contains stagnant water. Having underdrained it, the next thing is to plow and subsoil it in the fall. This should be the first thing to be attended to after wheat sowing. After the weeds are started, it should be plowed again, turning in about twenty loads of manure to the acre. Then let it lie till spring. Plant as early as the ground is in good working order, keep the land free from weeds, and success is certain. If you *must* sow any thing between the trees, let it be a hoe-crop. All things considered, perhaps *beans* are the best and corn the worst hoed crop to be planted amongst trees. On no account sow oats, barley, &c.

There are those who prefer applying the manure directly to the tree, instead of spreading it over the whole ground. On very light soil, it is perhaps best to do so, as there may be some loss from leaching. But on loamy land you need have no fear on this account. One thing is certain, fresh, unfermented manure should never be put into the holes where the trees are to be planted, unless it is done in the fall and the trees are planted in the spring. If manure is applied directly to the trees at the time of planting, it should be in the form of a compost. The compost may be made of one-third soil and two-thirds barn-

yard manure, placed in a heap a year before it is needed, and turned once or twice to assist decomposition. Peat or muck thoroughly decomposed with lime or ashes, or both, is also a good compost for fruit trees.

CHINESE POTATO (*Dioscorea batatas*).—C. A. PEABODY, Esq., the "great Strawberry man," and Horticultural editor of the *Soil of the South*, published at Columbus, Ga., does not appear to entertain a very favorable opinion of this proposed new esculent. He says:

"That new horticultural wonder, the Chinese Yam, proves a delicate and slow grower. We are satisfied that in this climate it will take two years, at least, to get a tuber large enough to eat. The vine resembles our wild potato, but not half as luxuriant. We have no idea that we shall have to move our fence round the Chinese Yam patch, in consequence of the enlargement of the tubers."

APPLES FOR NEW ENGLAND.—A correspondent of the *Country Gentleman* says:

"The Baldwin, Roxbury, Russet and R. I. Greening are decidedly the best apples that can be raised in New England. From what experience I have had in fruit growing, the reply the man made when his advice was asked what varieties he should select, was not so very absurd after all. Says he, 'If I were going to set out one thousand trees, I should choose nine hundred and ninety nine Baldwins, and I should not be particular about the rest.'"

"WOODMAN, SPARE THAT TREE."—"Let us pause," says Miss COOPER, in her *Rural Hours*, "to count the days, the months, the years—let us remember the generations that must come and go, the centuries that must roll onward, ere the seed of this year's cones shall produce a wood like that just prostrated. The stout arm so ready to raise the axe to-day, must grow weak with age, it must drop into the grave; its bone and sinew must crumble into dust long before other trees, tall and great as those, shall again occupy the same spot."

THE CULTIVATION OF DATES IN CUBA.—The Havana correspondent of the *Charleston Courier* says:

"One of the most industrious planters in the neighborhood of Matanzas, has succeeded in cultivating the date tree; and his success is beyond all his calculations. I have eaten some of the fruit, and consider it as good as the best I have ever tasted. A few more such men in our rich island, would soon revolutionize our antique system of agriculture, &c. The tree grows fully as high as it does in Africa, and bears abundantly."

TO PRESERVE APPLES FOR WINTER.—Pick them carefully, and put them in barrels without bruising; then head them up and keep in a cool, dry shed, till they are in danger of freezing; then remove to the cellar, and give them a cool airy place until needed for use.

GOLD AND COPPER IN PLANTS.—It is said that chemists have found gold, in extremely minute quantities, in the roots of violets, and in the stems and tendrils of the vine, and copper in tobacco and coffee.

PLINY says that the way roses were produced prematurely by the Romans, was by watering them with warm water when the buds began to appear.

WINE MAKING.—There has been so much mystery thrown around wine making, that many are deterred from the effort that have an abundance of grapes. But as we have said before, every family that has two grape vines on the lot, may make wine enough for home consumption, better and cheaper than they can import it from the grocer's factory. We will give, for the benefit of our readers, our *modus operandi* of wine making.

Let the grapes be fully ripe; gather them in clear, dry weather; look over the bunches and pick out all imperfect and rotted berries. Now have the wooden troughs, trays or tubs perfectly clean and sweet, and mash the bunches on the stems by hand; as the tray is filled, empty the mass into a clean tub, and so continue, until all the grapes are mashed; stir, the whole mass together in the tub, and leave it for fermentation; in a few hours bubbles will begin to rise, and in twenty-four to thirty-six, the mass will become so agitated that it will boil like a pot over the fire; watch it closely now, and as the fermentation subsides, put the mass into strong bags, and by some strong lever power, press the juice out; after the juice is all extracted, place it in a clean vessel and try its strength; if an egg will float in it so as to show the size of a quarter of a dollar, the juice will keep without the addition of sugar or brandy; if the egg sinks, add good brown sugar until it rises. Now turn the juice into a sweet cask; five, ten or thirty gallons, according to the quantity of the liquid; set the cask in a quiet, shady place in the attic or in the cellar. (We prefer the attic.) Leave the bung out, and from a pitcher of the juice, which should be reserved for the purpose, fill up the cask three, four or five times a day, for eight days; in the mean time, all the impurities in the juice will work out at the bung hole; after eight days place the bung slightly in the hole. Let it so remain for eight days longer, then drive it in and seal up the cask as tight as possible. Let the cask remain perfectly quiet, and any time after the March following, it may be drawn off and bottled. It will be no injury to the wine if it remain upon the lees for two or three years before it is bottled, as it ripens better and fattens upon the lees, but it may be used as soon as the March after making.—*Soil of the South*.

DESTROY THE WEEDS.—

"One year's seeding,
Makes seven year's weeding."

We exhort farmers and gardeners to look out sharply for the border ruffians that are invading their premises, and to kill every one of them, if they can do it constitutionally. There is no treason in resisting such characters in the old States. Every weed that goes to seed now, leaves a progeny of thousands to appear next year. Be sure and exterminate them as carefully in autumn as in spring—the work is more important. The stirring of the ground keeps up the circulation of air and the fertilizing gases about the roots of plants, and is as good, in a dry time, as a generous shower of rain.—*Drew's Rural Intelligence*.

VITALITY OF SEEDS.—Parsnip, rhubarb, and other thin, scaly seeds, keep for one year.

Carrot, cress, okra, gumbo, onions, peas, peppers, and small herbs in general, for two years.

Asparagus, egg plant, endive, lettuce, mustard, parsley, for three years.

Cabbage, cauliflower, corn, radish, sea kale, turnips, for four years.

Beet, celery, cucumber, melon, squash, for from five to ten years.

To preserve seeds they must be kept cool without being kept damp.—*Patent Office Report*.

Ladies' Department.

FLORAL IMITATIONS.

GAZETTES abound in suggestions and records of discovery and hints of improvement in methods of imitating flowers, and so far has this branch of industry been pushed, that nearly every article in requisition for refined and enlightened humanity, is adorned with skillfully constructed resemblances of vines, and leaves, and blossoms, without hindrance from obstacles in material.

A process is just recommended for obtaining accurate casts of flowers, in *plaster*. They have been copied in *wax*, till they seem to live and exhale fragrance—so perfect grows the art. They are exhibited in curiously braided *hair*, not beautiful imitations, but most ingenious. They figure in would-be argillaceous immortality, delicate and soothing, on one's tea-cup, at evening seen through the "lucid atmosphere of mild Cathay." To produce them on canvass, and glass, and metal, and wood, and to carve them into stone, is the proud life occupation of thousands. To leave their fair outlines upon cloth for garments and hangings, the employment of thousands more. Italy, skilled in painting and other arts, exulted in her success in forming from dyed *cocoons*, *artificial flowers* for purposes of dress, that supplanted a ruder sort made from ribbons folded and twisted upon wire. Italian cunning yielded to superior French contrivances, that, with Florence taffeta, and velvet, and finest cambric, and thin whalebone leaves, and glass, and silk, with the added vivacity of Tyrian dyes, made these comparatively coarse materials assume most flower-like figures, worthy of a garden bed. These too have given place in point of beauty, though not in general use, to the superb and admirable manufactures of the South American savages, of blossoms and leaves from the brilliant plumage of their birds, whose unfading natural hues so closely resemble the gorgeous coloring of tropical vegetation.

Even poor counterfeits are compliments. Boquets of paper flowers, of common hues, flaunt in the dwellings of the poor—costlier garlands, tinted with indigo, and curcumine, and carmine, and archil, hang from the chandeliers and adorn the drawing-rooms of the rich,—each furnishing its meed of pleasure, paling only before the purer pleasure of planting, training, gathering and cherishing flowers that are *no* counterfeits.

LADY EQUESTRIANISM.—"If we are to have a progeny worth perpetuating," says the *Plough, Loom and Anvil*, "our ladies must take more invigorating exercise than is usual among us. We would rather see farmers' wives and daughters turning the swath and raking after the cart, than see them pining for want of exhilarating exercise in the open air; but we would sooner see them riding on horseback, to the tune of ten miles an hour. It is an elegant art. Nothing is more conducive to health. *Farmers* have no excuse for not training their sons and daughters to it."

SWEET-APPLE PUDDING.—Take one pint of scalded milk, half a pint of Indian meal, a teaspoonful of salt, and six sweet apples cut into small pieces, will afford an excellent rich jelly. This is one of the most luxurious yet simple Yankee puddings made.

HINTS FOR HOUSEWIVES.

BEESWAX.—The neatest way to separate beeswax from the comb, is to tie it in a piece of linen or woolen cloth or bag, with a pebble or two to keep it from floating; place it in a kettle of cold water, which is hung over the fire; as the water heats, the wax melts and rises to the surface, while all the impurities remain in the bag.

COCKROACHES.—To destroy roaches, a correspondent of the *New-York Express* says: "Place a basin of strong suds, sweetened with molasses, on the floor, every night, with a wet cloth on the floor, the edge on the basin, for easy access to the water. By this means they will soon be entirely destroyed."

HOW TO MAKE NICE CANDLES.—Good candles may be thus made: Melt together ten ounces of mutton tallow, a quarter of an ounce of camphor, four ounces of beeswax, and two ounces of alum, and then run it into moulds as usual, or dip the candles. These candles furnish a beautiful light.

Another Method.—Take two pounds of alum for every ten pounds of tallow, dissolve it in water before the tallow is put in, and then melt the tallow in the alum water, with frequent stirring, and it will clarify and harden the tallow so as to make a most beautiful article for either winter or summer use; almost as good as sperm.

TO MAKE TOMATO WINE.—Take small, ripe tomatoes, pick off the stems, put them into a basket or tub, wash clean, then mash well, and strain through a linen rag, (a bushel will make five gallons, pure,) then add two and a half to three pounds of good brown sugar to each gallon; then put into a cask, and ferment and fine, as for raspberry wine. If two gallons of water be added to each bushel of tomatoes, the wine will be as good.

BAKED TOMATOES.—Tomatoes peeled and baked on a flat dish, as we bake apples, (or even baked without peeling,) and when done, seasoned with salt, butter and pepper, is, we think, the most luscious way of preparing this excellent fruit.

LOOK OUT FOR EARLY FROSTS.

TENDER flowers for green-houses and parlors must be removed from the earth by the last of September, that they may begin their season fresh and free from discoloration or weakness from early *frosts*. Hardy and half-hardy annuals, that are yet blooming in open beds in the time of the first frosts, may be kept much longer in flower, by throwing a light covering over them nights, as netting or sheets, supported by chairs, or props, or branches, from breaking the stems. Those plants suffer first from frosts, that have most succulent (juicy) stems, (except those naturally "tender.") and those in the dampest ground. This is why dilettanti and professional gardeners drain the subsoil of their parterres, and use light, dry, upper soils, and build rockeries from which water naturally escapes. Some herbaceous plants may be kept along many weeks later than usual in flower, by protecting them as already mentioned on *severe* nights, and strewing tan, litter, leaves, or straw, to retain heat, and throw off water. These protectors, or sand, or ashes, laid carefully over the roots and about the collars of delicate ligneous plants, will preserve them from year to year, through ordinary winters.

Editor's Table.

STATE AND COUNTY SHOWS FOR 1856.

New-Jersey,	Newark,	Sept. 9—12.
Vermont,	Burlington,	Sept. 9 to 12.
Canada East,	Three Rivers,	Sept. 16—18.
Virginia,	Wheeling Island,	Sept. 17—19.
Ohio,	Cleveland,	Sept. 23—26.
Canada West,	Kingston,	Sept. 23—26.
Am. Pom. Society,	Rochester,	Sept. 24—30.
Michigan,	Detroit,	Sept. 30—Oct. 1, 2, 3
New York,	Watertown,	Sept. 30—Oct. 1, 2, 3
Illinois,	Alton,	Sept. 30—Oct. 1, 2, 3
Pennsylvania,	Pittsburgh,	Sept. 30 to Oct. 2.
Kentucky,	Paris,	Sept. 30 to Oct. 5.
Virginia,	Richmond,	Oct. 23 to Nov. 1.
Tennessee,	Nashville,	Oct. 9—14.
National Ag. Show,	Philadelphia,	Oct. 7—10.
Connecticut,	New Haven,	Oct. 7—10.
Maryland,	Baltimore,	Oct. 21—24.
California,	San Jose,	Oct. 7, 8, 9.
Wisconsin,	Milwaukee,	Oct. 8 to 10.
New Hampshire		Oct. 8, 9, 10.
Iowa,	Muscatine,	Oct. 8—10.
North Carolina,	Raleigh,	Oct. 14—17.
Georgia,	Atlanta,	Oct. 20—25.
Indiana,	Indianapolis,	Oct. 20—25.
Maine,		Oct. 28—30.
Alabama,	Montgomery,	Nov. 11—14.
South Carolina,	Columbia,	Nov. 11—14.

NEW YORK COUNTY AGRICULTURAL FAIRS.

Albany, Albany,	Sept. 23, 24, 25.
Cattaraugus, Little Valley,	Sept. 17, 18, 19.
Cayuga,	Sept. 17, 18, 19.
Delaware, Walton,	Sept. 24, 25.
Essex, Elizabethtown,	Sept. 18, 19.
Franklin, Malone,	Sept. 24, 25, 26.
Jefferson, Watertown,	Sept. 17, 18.
Monroe, Rochester,	Sept. 24, 25, 26.
Madison, Munnsville,	Sept. 8, 9, 10.
Onondaga, Syracuse,	Sept. 10, 11, 12.
Orleans, Albion,	Sept. 25, 26.
Oneida, Rome,	Sept. 23, 24, 25.
Ontario, Geneva,	Sept. 24, 25, 26.
Queens,	Sept. 25.
Oswego, Mexico,	Oct. 17, 18.
Rockland, New City,	Oct. 8, 9.
Rensselaer, Lansingburgh,	Sept. 16, 17, 18.
Schuyler, Watkins,	Sept. 8, 9.
Seneca, Waterloo,	Oct. 8, 9, 10.
St. Lawrence, Canton,	Sept. 18, 19.
Tioga, Owego,	Sept. 24, 25.
Washington, Union Village,	Sept. 10, 18.
Wayne, Lyons,	Sept. 23, 24, 25.

A WORD TO OUR EXCHANGES.—In order to get as much matter into our paper as possible, we have given, during the present year, all our original matter *solid*. That is to say, we give our original matter in the form that most papers print their extracts. This may account for the fact that very many of our exchanges copy our articles without the usual credit. The extent to which we suffer in this respect, is past all belief. For instance, the *Virginia Farmer* for August contains *thirty-one* articles copied from the *Genesee Farmer* without a word of credit! Our contemporary probably thought that because they were printed *solid*, that we had extracted them from other papers without credit. This is not so; many of the articles copied were not only entirely original, but cost us considerable labor. We never copy without giving credit.

The August number of the *Wool Grower* contained three articles copied from the *Farmer* without credit; and, what is still more remarkable, they were given in the Editor's Table, which is generally supposed to be devoted

more exclusively to the editor's own effusions. Our amiable neighbor of the *Rural New-Yorker*, too, is in the constant habit of copying our articles without credit. True, they are mostly short articles which he appropriates, but it is just these short articles—the cream of a subject—which are generally the most valuable; and we would remind our neighbor that

"It is a sin to steal a pin," &c.

Furthermore, the matter in the *Rural* is all *leaded*, and hence it is that we frequently have the pleasure of seeing our articles "going the rounds," credited to "that able agricultural paper, the *Rural New-Yorker*!"

We trust that we shall not have to allude to this subject again.

FLOOD IN MASSACHUSETTS.—The *Boston Cultivator* of the 16th ultimo says: "Last week will be long remembered for the great quantity of rain which fell, and the damage done by water and by lightning. After the prevalence of a fresh wind from the ocean for a week, during which time the air had become charged with vapor to the highest degree, a storm commenced on the night of the 5th instant, and in the space of ten hours, four and a half inches of water was precipitated to the earth. The effects of this had just strikingly appeared in the rise of streams, when, on the 8th instant, another storm set in, accompanied by lightning, and in the space of twelve hours about five inches of water fell—making nine and a half inches in about three days. The greatest injury from this unusual quantity of rain in this vicinity, is in the overflow of low grass grounds. The meadows which form the banks of the Charles and Neponset rivers, had been mowed to the extent of one-third, perhaps, though a large portion of the grass that was cut remained on the ground in a partially cured state. The water has been so high as to cover most of the uncut grass, and from the length of time the freshet has continued, the crop, including the outstanding hay, will be ruined. The damage on other streams has probably been serious. The Connecticut has been very high—eighteen feet above low water mark at Springfield, as reported in the papers—and the intervals must have been overflowed to a great extent. We have received no particulars in regard to the injury to crops in this valley, but have reason to fear that it has been very great. The railroad, which follows the general line of the river, was so much injured that the travel for several days was interrupted. Accounts state that rain has lately fallen over a large extent of country, but we have seen nothing to indicate that the storms which were so severe here, extended with much force west of the Green mountain range."

ENORMOUS PRICE FOR A SOUTH DOWN RAM.—It is said that JONAS WEBB refused five hundred guineas (\$2,520), for his yearling ram that took the first prize at the Paris Exhibition. Mr. ALLIER, director of the "Establishment of Beneficence," in France, (an industrial penitentiary for young prisoners,) writes the *London Times* that he has purchased a ram of Mr. WEBB for two hundred and sixty-two pounds (\$1,257 60)!

GOOD WHEAT CROP.—The wheat crop of Mr. E. S. HAYWARD, to which we alluded in the last number, has been threshed, and the yield was *thirty-five bushels of merchantable wheat per acre!* Mr. H. estimates, from the shrunken grains in it, that the weevil destroyed about five bushels per acre. This is a great yield *after oats*. Who can beat it?

NEW BOOKS.—In addition to the list of books given in our advertising columns, we have recently obtained—

Morton's Cyclopedia of Agriculture—Decidedly the best and most recent work of the kind in the language. It is in two volumes, illustrated with numerous engravings on steel and on wood. Price, bound in morocco, \$22; in cloth, \$18.

Rhind's Vegetable Kingdom—A very superior work, illustrated with colored plates, and a large number of steel and wood engravings. Price \$6.

The Farmer's Guide—By James Webb, Veterinary Surgeon. A treatise on the diseases of horses and cattle, with a selection of approved prescriptions, and instructions for the management of breeding mares and colts, and a few remarks on the breeding and management of sheep. Price 87½ cents.

How to Choose a Milch Cow—By J. H. Mayne, Professor of the Veterinary School, Alport; with a supplement on the dairy cattle of Britain; their qualities, habits, management, and productive results; with hints for selecting, by John Haxton. Price 62½ cents.

Smith on the the Construction of Cottages. This is an essay on the construction of cottages, to which the premium offered by the Highland Society of Scotland was awarded. Illustrated by Working Plans. Price \$1.

The Farm Engineer—A treatise on barn machinery, particularly on the application of steam and other motive powers to the threshing machine, &c., &c. By Robert Ritchie. Price \$3.

The above works are all published by Blackie & Son, of Glasgow, Edinburgh and London, and are not reprinted in this country. There are no better works of the kind extant. We have also the *Rural Cyclopedia*, by the Rev. JOHN M. WILSON, an excellent work, but not quite equal in many respects to Morton's. Handsomely bound in four volumes. Price \$16.

THE AMERICAN POMOLOGICAL SOCIETY.—The Sixth Annual Session of this Society will be held in this city, Sept. 24—30. The Exhibition of Fruits will be held in connection with that of the *Genesee Valley Horticultural Society*. Matters of great interest will be brought before the Session, and the attendance is expected to be quite large. Western New York enjoys an enviable reputation as a fruit growing section. Great things will be expected of her, and we trust our horticulturists will make great efforts to have the exhibition at least equal to these expectations.

MONROE CO. AG. SOCIETY.—The Annual Fair of the Monroe Co. Agricultural Society will be held at the new Fair Grounds of the Society, near this city, Sept. 24, 25 & 26. Some fifteen hundred dollars are offered in premiums, and great interest is manifested by the friends and officers of the Society, so that we expect an excellent exhibition and a large attendance. Ex-Governor HUNT will deliver an address on the last day.

PROLIFIC STRAWBERRY.—At the June Exhibition of the New York State Horticultural Society, a single plant of Longworth's Prolific Strawberry was shown, containing two hundred and thirty-one berries. This variety took the first prize.

HORSES IN ENGLAND.—The *London Farmers' Magazine* says the "demand [for horses] is now increased far beyond the power of supply, and good horses are making fabulous prices."

Notices of New Books, Periodicals, &c.

MEMORIALS OF HIS TIMES. By Henry Cockburn. D. Appleton & Co. New York: 1856.

THIS is one of the most interesting books that we have read for some time. It is written with great ability, and the stirring events in the life of such a man as Lord COCKBURN, and the men with whom he was brought in contact, afford abundant materials for a number of volumes. We are glad to have the cream in the volume before us.

HOUSEHOLD MYSTERIES: A Romance of Southern Life. By Lizzie Pettit, of Virginia, Author of "Light and Darkness." New York. D. Appleton & Co. 1856.

This is a well written and interesting novel, the characters perhaps a little overdrawn, but not too much so to suit the popular taste. Some of our lady acquaintances pronounce it "good," "excellent," "splendid," &c., &c.

SIX MONTHS IN KANSAS. By a Lady. Boston. J. P. Jewett & Co. 1856.

This book is made up of a series of letters written from Kansas, during a six months' residence, by a lady of Massachusetts. The letters bear the impress of truth, and will be read with interest.

FOREST AND SHORE; or Legends of the Pine Tree State. By CHAS. P. LISLEY. Boston: John P. Jewett & Co. 1856.

WE have seldom read better stories than a number of those contained in this book. "The Wrecker's Daughter" is one of absorbing interest, and there are several others that are "first rate."

Inquiries and Answers.

(H. N. TITUS, Whiteford, Ohio.) **HYDRAULIC RAMS.**—Hydraulic Rams can be obtained at most agricultural warehouses. You could certainly get them at Columbus or Cleveland, or from H. C. WHITE, of Buffalo, N. Y. The price of a ram fit for general purposes is \$25. Lead pipe extra.

(MRS. S. J. CROSSMAN, Watervleit, Mich.) **SPIREA SORBIFOLIA**—*Mountain Ash Leaved Spirea*.—The leaf and flower you sent belongs to some Spirea, apparently Spirea Sorbifolia. The Spires are all hardy shrubs, and most of them very pretty; the colors mostly different shades of red and white. Amongst the red ones are Spires *Douglasii*, *Grandiflora*, *Callora*, &c.

(B. D. BIGELOW, Iowa Falls, Iowa.) **CURE FOR GARGET.**—The recipe referred to is in brief this: Twelve grains of hydriodate of potash dissolved in a tablespoonful of water; to be given three times a day till a cure is effected. The easiest way of getting at the proper quantity is to buy half a pound (218 grains.) of hydriodate of potash, and as this will contain enough for eighteen doses, mix it with eighteen tablespoonfuls of water in a bottle. Give a tablespoonful three times a day.

SPRING OR FALL PLANTING.—Please let me know when is the best time to set out apple trees, in the fall or spring? I bought some trees of an agent of the Rochester Nursery two years ago this fall, and my neighbors also bought some of the same man. We told him they had been out of the ground too long when we got them, and mine and my neighbors all died. H. INMAN—*Hagaman's Mills, N. Y.*

COOKING THE KOHL RABI.—*Messrs. Editors:*—You gave me last spring, a lot of garden seeds; among them were what is called the Kohl Rabi, which to me and mine is something new under the sun. Now I desire of your thousands of readers, information as to cooking the article. I want to know the best method of cooking or otherwise preparing them for the table, and shall be under great obligation to whomsoever will give the desired information. D.—*Gates.*

PLOWING AND PRUNING AN OLD ORCHARD.—Please inform me through the *Farmer* what time of year is best to plow an old orchard—spring or fall? Also, when is the best time to prune it? W. A. MARTIN.—Lynn, Susquehanna Co., Pa.

CHINESE HOGS.—I notice in your paper a description of the Chinese hog. I would like to know where and at what price they can be obtained. J. DINE—*Jacksonboro', Butler Co., Ohio.*

If any of our readers have the Chinese hogs, we should be glad to hear from them.

LAYERING THE PEACH.—Is the peach ever propagated by layering? I have a limb of a peach tree partly broken off, so that the branches lie on the ground, and I find that where they are covered with a little loose soil they have taken root. I have thought from this that the peach, under some circumstances, might be advantageously propagated by layering. Have you or any of your correspondents any experience on this point? I have also observed that cuttings of the peach, when accidentally left on the ground, will strike root and grow. W. A.—*Monroe Co.*

LILAC ON ASH STOCKS.—I have tried several times to graft the lilac on ash stocks, and always failed. The stocks used were white ash. The lilac being one of the earliest shrubs to leaf out in the spring, and the ash one of the latest, the union seems unnatural ; but if it can be effected, a great object will be gained, by getting rid of the shoots from the roots of the lilacs. If any of your friends have succeeded in grafting the lilac on the ash, or any other tree, I wish they would let us know the time and manner of operating so as to secure success. E.—*Carleton Place, C. W.*

ROSE BUGS.—Do you permit lady readers to make inquiries? If so, I should like to know what will prove efficacious in destroying the small slugs on the under side of a rose bush leaf? Our bushes, as well as many others, have been completely destroyed by them. As they are our favorite flower, it is very annoying, and most thankfully would I receive any information for their extirpation. Is now the best time for setting out strawberries? M. L. BEATTY—*Aurora, N. Y.*

Strawberries may be planted out this month. If the weather is rainy, or the ground is *thoroughly* watered as soon as the plants are set out, they do as well set out now as in the spring, and are more likely to bear fruit next summer. See article on this subject on another page.

ADVERTISEMENTS.

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

LAWTON BLACKBERRY.

DESCRIPTIVE CIRCULARS, with terms of sale, and ample directions for cultivation will be forwarded to applicants.

Address WILLIAM LAWTON,
No. 54 Wall street, New York.

FRUIT AND ORNAMENTAL TREES, &c.

A. FROST & CO., Proprietors of the Genesee Valley Nurseries, Rochester, N. Y., offer one of the largest stocks of Fruit and Ornamental Trees and Plants for sale the coming autumn that there is in the United States.

The stock comprises in immense quantities, every description of Standard and Dwarf Fruit trees, including the smaller fruits. Also,
ORNAMENTAL TREES, SHRUBS, ROSES, &c.

For further information, attention is directed to the following Catalogues now published, and containing prices of the different articles, which are mailed to all applicants upon the receipt of a one cent postage stamp for each Catalogue wanted.

- No. 1. Catalogue of Fruits.
- No. 2. Catalogue of Ornamental Shrubs, &c. (just published.)
- No. 3. Catalogue of Dahlias, Verbenas, Green house and Bedding plants, &c.
- No. 4. Wholesale Catalogue for Nurserymen and Dealers and for those who wish to plant trees in large quantities, (just published.)
- No. 5. Supplementary Catalogue of Fruits, &c., containing many new articles introduced up to the present time, (just published.)

Address A. FROST & CO.
t. Rochester, N. Y.

FAIR OF THE NEW YORK STATE AG. SOCIETY,
AT WATERTOWN, SEPT. 30, AND OCT. 1, 2 & 3.

THE Annual Exhibition of the New York State Agricultural Society will be held at Watertown, Jefferson county, September 30th, and October 1st, 2d, and 3d.

The *Rome & Watertown* and *Potsdam Railroads* will carry stock and articles free, and passengers at half fares. The *Lake Ontario Steamboat Company* will carry stock and articles and passengers at half fares. The *Hudson River* and *N. Y. Central Railroads* will carry stock and articles free, with the usual condition of payment when shipped, to be repaid if stock and articles are returned, ownership unchaned, with certificate of exhibition.

The arrangements at Watertown will be of the most satisfactory character, and provisions for stock upon the ground, such as to enable the owners to have them upon the ground the week previous and during the Fair, in comfortable quarters, with plenty of food.

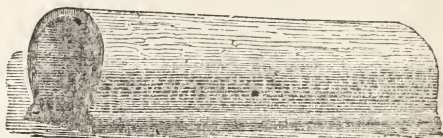
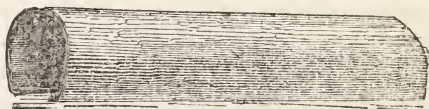
✎ The stock and articles passing over the Rome & Watertown Railroad must be sent the week previous to the Fair, as the road will, the week of the Fair, be exclusively devoted to passengers, and trains will be run as often as may be necessary from Rome and Cape Vincent to Watertown to transport passengers intending to attend the Exhibition, without delay.

A very choice herd of Devon cattle, and superior Short Horns and Herefords are already entered for public sale, affording an opportunity never before given at our Fairs of purchasing the very best stock at public sale.

Entries may be made at the office on the show grounds the week previous to the Fair, or with the Secretary at Albany at any time previous.
B. P. JOHNSON, Secretary.
Agricultural Rooms, Albany, September 1, 1856.—2t.

TILES AND PIPES FOR UNDERDRAINS

THE Rochester Brick and Tile Manufacturing Company are prepared to furnish Tiles and Pipes of all sizes for underdraining land, cellar drains, &c., at the following prices:



	Per 1000 pieces.	Per rod. 16 ft.
2 inch Sole Tile, -----	\$10 00	
3 " " " " -----	20 00	2 6
4 " " " " -----	30 00	4 6
5 " " " " -----	40 00	6 0
6 " " " " -----	50 00	10 0
8 " " " " -----	80 00	
2 " " " " -----	8 00	
3 " " " " -----	12 00	
4 " " " " -----	16 00	2
5 " " " " -----	25 00	3


The Tiles are strong, hard burned, and of very superior quality. Persons wishing tiles will find it to their interest to call at the office of the Company, 22 Buffalo street, Rochester, before purchasing elsewhere.

A large quantity of Brick always on hand.

WM. OTIS, Superintendent. JASON BAKER, Agent.
September 1, 1856—lt.—

EVERGREEN TREES AT LOW PRICES.

MESSRS. ELLWANGER & BARRY solicit the attention of Nurserymen, Planters and Dealers in Trees, to their immense stock of Evergreens, by far the largest ever offered in the United States. They are prepared to furnish the following at the extremely low prices annexed.

 All frequently transplanted and, therefore, finely formed and well rooted.

	per 100	per 1000
Norway Spruce, 5 feet.....	\$60 00	\$500 00
“ “ 4 “.....	40 00	350 00
“ “ 3 “.....	25 00	225 00
“ “ 2 “.....	18 00	150 00
“ “ 1½ “.....	15 00	120 00
“ “ 1 “.....	10 00	70 00
“ 4 years Seedlings, 2 years transplanted.....	30 00	
“ 1 year, from Seed bed.....	10 00	
Scotch Pine, 12 inches.....	10 00	80 00
“ “ 9 “.....	8 00	60 00
Austrian Pine, 10 to 12 inches.....	12 00	90 00
“ “ 6 to 9 “.....	10 00	80 00
Arbor Vitæ Siberian, 3 feet, beautiful plants.....	40 00	
“ “ “ 2 “.....	30 00	
“ “ American, bushy, for hedges, 2-2½ ft. 8 00	60 00	
“ “ “ 1-1½ ft. 5 00	40 00	
“ Golden, a beautiful tree, 1½ to 2 feet, \$9 per dozen.		

	per doz.
Himalayan Spruce, (Abies Morinda) 2 to 3 feet.....	\$10 00
Pinapo Spruce, (A Pinsapo) fine broad plants, 10 in. high.	9 00
Chili Pine (Auracaria imbricata) in pots, 12 to 18 inches.....	9 00
Deodar Cedar, 2 to 3 feet, beautiful plants.....	9 00
African or Silver Cedar (C. Africana, or Argentea) beautiful, 1½ to 2 feet, (more hardy than Deodar).....	9 00
Japan Cedar (Cryptomeria) beautiful Seedlings in pots, 3 ft.	10 00
Funeral Cypress (Capressus Funerbris) in pots, 1 foot.....	5 00
Twisted or Bhotan Cypress (C. Torulosa) in pots, 1 foot.....	4 00
Yew, English, 1½ to 2 feet.....	4 00
“ “ 1 “.....	3 00
“ “ 6 inches.....	2 00
“ Golden, (Elegantissima) 9 to 12 inches.....	5 00
“ Irish or upright, 1½ to 2 feet.....	5 00
“ “ 1 foot, \$3 per doz., \$18 per 100.	
“ “ 6 inches, \$2 per doz., \$12 per 100.	

For further details we refer to our Wholesale Catalogue, sent gratis to all who apply and inclose a stamp. Address

ELLWANGER & BARRY,
Sept., 1856.—1t. Mount Hope Nurseries, Rochester, N. Y.

TO NURSERYMEN.

STOCKS AND SEEDLING TREES.

WE solicit the attention of the trade to the following articles, which we are prepared to furnish this fall at the annexed low rates—all are exceedingly vigorous and well grown.

	per 1,000
MAGNOLIA ACUMINATA, 3 year Seedlings, 2 feet.....	\$50 00
“ “ “ 1 “.....	30 00
ELM, American, 2 year Seedlings.....	15 00
HORSE CHESTNUT, 3 yr “.....	60 00
“ “ 2 “.....	40 00
OAK, White American, 3 years.....	20 00
“ Red “ 3 “.....	20 00
BUTTER NUT, 3 year Seedlings, 2 to 3 feet.....	40 00
BLACK WALNUT, 3 yr “ 2 to 3 “.....	40 00
MAPLE, Silver, 2 “.....	12 00
“ Scarlet 2 “.....	20 00
“ Sugar 1 “.....	6 00
“ “ 1 to 2 feet.....	30 00
LARCH, European, 2 feet.....	50 00
CATALPA, “ 1 foot.....	40 00
MAHONIA, or ASHBERRY, one of the finest Evergreen Shrubs, 2 year Seedlings.....	50 00
“ “ 1 “.....	20 00
PLUM SEEDLINGS, 1 year, native.....	10 00
PEAR “ 1 “.....	10 00
CHERRY, Mazzard, 1 “.....	4 00
“ Mahaleb, Strong.....	15 00
MANETTI ROSE, Stocks, Strong.....	40 00

For further particulars we beg to refer to our Wholesale Catalogue, sent gratis to all who apply and enclose a stamp.

ELLWANGER & BARRY,
Sept. 1856.—1t. Mount Hope Nurseries, Rochester, N. Y.

FRUIT AND ORNAMENTAL TREES.

HIGHTSTOWN, N. J.

THE Subscriber offers for sale, for the Fall of 1856 and Spring of 1857, a fine collection of Standard and Dwarf Pears, Standard and Dwarf Cherries, Standard and Dwarf Apples, Apricots, &c. 200,000 Silver Maple Seedlings, and Ornamental Trees of the most approved varieties.

A Descriptive Catalogue, and a Trade List for wholesale dealers and nurserymen, will be sent on application. Applicants for either will please enclose a penny stamp. ISAAC PULLEN,
Sept. 1.—2t. Hightstown, Mercer Co., N. J.

EMERY'S HORSE POWERS AND THRESHERS. For sale by
August 1—2t. A. LONGETT, 34 Cliff street,
Corner of Fulton, New York.

FRUIT AND ORNAMENTAL TREES.

ELLWANGER & BARRY have the pleasure of announcing to their customers and the public in general, that they have now in their grounds, for the ensuing fall trade, a very large and complete stock of Fruit and Ornamental Trees, embracing—

Standard and Dwarf Apple Trees;
Standard and Dwarf Pear do.;
Standard and Dwarf Cherry and Plum, Peaches, Apricots, Nectarines, &c.

Quinces—Large Orange, fine grafted plants.
Gooseberries, of the best sorts, a large stock.
Currants—Including the newest and finest sorts—upwards of 300,000 plants.

Raspberries—Including Brinkley's Orange, and several new and fine ever-bearing sorts,

Blackberries—High-Bush, and New Rochelle or Lawton—a large stock.

Besides Walnuts, Chestnuts, Filberts, and all other fruits usually cultivated.

Grapes—Native and Foreign, in large quantities.

Strawberries—All the best new and old sorts.

Rhubarb, Asparagus, &c.

ORNAMENTAL TREES, SHRUBS, &c.

Deciduous Ornamental Trees, for Streets, Parks, Lawns, Cemeteries, &c.

Flowering Shrubs.

Roses—An immense collection, old and new, covering upwards of five acres of land.

Evergreen Trees—Including half a million of Norway Spruce, of all sizes.

Weeping Trees—Every thing desirable.

Double Dahlias and Bulbous Roots.

Hedge Plants, of all sorts.

Stocks and Seedling Plants, for Nurserymen.

Green House and Bedding-Out Plants—A full assortment.

Nurserymen and dealers dealt with on the most liberal terms, and amateurs' orders attended to with the greatest care. Packing done in the most thorough and skillful manner, and with the best material.

For full particulars we refer to special advertisements, and to the following Catalogues sent gratis to all who apply and send a stamp for each:

- No. 1—Descriptive Catalogue of Fruits;
- No. 2—Descriptive Catalogue of Ornamental Trees, Shrubs, Roses, &c.;
- No. 3—Catalogue of Dahlias, Green House and Bedding Plants;
- No. 4—Wholesale, or Trade List;
- No. 5—Supplemental Catalogue of Fruits.


ELLWANGER & BARRY,
Sept., 1856.—1t. Mt. Hope Nurseries, Rochester, N. Y.

BULBOUS FLOWER ROOTS.

WE have now on hand a large stock of choice Bulbs, and are receiving a new invoice from Holland, consisting of the finest

HYACINTHS, Double and Single.
TULIPS of all the Classes,
CROWN IMPERIALS,
CROCUS, JONQUILS, NARCISSUS,
JAPANESE and other LILLIES.
GLADIOLI, a superb collection of new and all the older sorts, &c., &c., &c.

We are prepared to furnish all, at low rates, in large or small quantities, and solicit orders during the month of September, before the busy season opens.

 Priced Catalogues forwarded gratis.

ELLWANGER & BARRY,
Sept., 1856.—1t. Mount Hope Nurseries, Rochester, N. Y.

THE HOOKER STRAWBERRY.

WE shall be prepared to furnish young plants of the above new and splendid Seedling Strawberry after the first of September next. This variety was originally raised by our Mr. Hooker, and thoroughly proved by him. The experience of the past season has fully demonstrated that what we have claimed for it is true.

“IT HAS NO EQUAL FOR GENERAL CULTIVATION.”

Some of its recommendations are:

Great size, and remarkable beauty.

Unequalled excellence and richness of flavor.

Very hardy, productive and vigorous plant.

Perfect blossoms, requiring no other sort as a fertilizer.

Ripening early, and continuing long in bearing.

Price \$1.50 per dozen, \$5.00 per hundred.

STRAWBERRY PLANTS, of all the best standard varieties for marketing and for the amateur's garden, for sale in large or small quantities, and at moderate prices.

H. E. HOOKER & CO.,
Rochester, Sept. 1.—1t. Commercial Nurseries.

WM. R. PRINCE & CO., FLUSHING, N. Y.

Will supply for present planting, Strawberries an unrivalled collection, the new descriptive catalogue now ready. Also, Bulbous Roots, Peonies, Rhubarb, Asparagus of the finest kinds, Madder, Licorice, and Seeds. Chinese Potato in October at reduced prices. Priced Catalogues for applicants.

September 1.—2t*

A CHANCE TO MAKE MONEY!**PROFITABLE AND HONORABLE EMPLOYMENT!**

THE Subscriber is desirous of having an agent in each county and town of the Union. A capital of from \$5 to \$10 only will be required, and anything like an efficient, energetic man can make from three to five dollars per day; some Agents are realizing twice that sum. Every information will be given by addressing, with a stamp to pay return letter, W. M. A KINSLER, Sept. 1.—1t* Box 1223 Philadelphia, Pa., Post Office.

A FIVE DOLLAR LIBRARY FOR FARMERS.
 SENT BY MAIL FREE OF POSTAGE.

THE American Farm Book.....	\$1.00
Diseases of Domestic Animals.....	75
Brown's Field Book of Manures.....	1 25
The Stable Book.....	1.00
Nash's Progressive Farmer.....	50
Munn's Land Drainer.....	50

This Library is arranged with a view to supplying the greatest amount of practical instruction without needless repetition. At least this much of an Agricultural Library should be in the hands of every farmer in America.

Our Descriptive Catalogue of Agricultural Books sent to any who will favor us with their address.

C. M. SEXTON & CO., Agricultural Book Publishers,
 Sept. 1.—1t. 140 Fulton street, New York.

UNITED STATES AGRICULTURAL SOCIETY.

THE FOURTH ANNUAL EXHIBITION of the United States Agricultural Society will be held at Powelton, (Philadelphia,) on Tuesday, Wednesday, Thursday, Friday and Saturday, October 7th, 8th, 9th, 10th, and 11th.

Premiums from Twenty-five to Two Hundred Dollars, amounting in the aggregate to *Fourteen Thousand Dollars*, will be offered for the various classes of Domestic Animals, Fruits, American Wines, Vegetables, Grains, Agricultural Implements and Machinery.

A Local Committee at Philadelphia, representing the various branches of industry, has already been appointed to co-operate with the officers of the Society, in perfecting arrangements for the Exhibition. *Fifteen Thousand Dollars* have been guaranteed to meet expenses. This material aid, coupled with the excellence of the selected location, and the large amount of Premiums offered, induces the expectation that the Exhibition of 1856 will be superior to any of its predecessors.

A GRAND AGRICULTURAL BANQUET, in which Ladies, as well as Gentlemen, will participate, will take place on Friday afternoon, October 10th, when Distinguished Speakers will address the assemblage.

Favorable arrangements with the various Railroads, for the transportation of Stock and other articles, are in progress, the terms of which will be given on application at the office.

The Premium List, with the Regulations and Programme of the Exhibition, will be furnished on application to Mr. JOHN MCGOWAN, Assistant Secretary of the United States Ag. Society, 160 Chestnut Street, (Rooms of the Philadelphia Agricultural Society,) or by addressing the Secretary, at Boston.

MARSHALL P. WILDER, President.

WILLIAM S. KING, Secretary.
 September 1, 1855.—1t.

SCRIBNER'S TABLE BOOKS,

FOR LUMBER, LOGS, GRAIN, PRODUCE, &c.

The Ready Reckoner and Log Book,

FOR SHIP-BUILDERS, BOAT-BUILDERS, LUMBER MERCHANTS, FARMERS AND MECHANICS.

Being a Correct Measurement of Scantling, Boards, Plank, Cubical Contents of Square and Round Timber, Saelogs, Wood, &c., comprised in a number of Tables—to which are added *Tables of Wages by the Month, Board or Rent by the Day or Week, &c.*

This book has now attained a popularity and sale unprecedented by any other book of the same kind ever published in the United States; nearly two hundred thousand copies have already been sold. It is constantly increasing in favor with Lumber Dealers, Farmers and Mechanics, as the most correct and reliable book extant; it is known and ordered from all parts of the United States and Canada, and some have been sent to England and Australia.

The Produce Tables and Grain Book,

For Farmers, Millers, Produce Dealers, and Mechanics, exhibits at one view the value of more than 16,000 different quantities of Grain, computed at sixty pounds to the bushel—so arranged as to present, on the same page, the value of the whole number of bushels and pounds at the same price. Also, Tables of Interest, Scantling, Weights of Iron, and other useful Tables for business men, &c., &c.

Mistakes are often made by hasty calculation, which subject parties to great loss, while a small sum paid for a book saves this difficulty, and greatly facilitates business.

Price 25 cents for either of the above books, or five copies for one dollar. Both books are bound in one, called "SCRIBNER'S LUMBER AND GRAIN TABLES," and sold for 50 cents. Either book sent by mail, post-paid, on receipt of the above price.

Book Pedlars, Agents and others, supplied on the most liberal terms. Money can be made by Agents selling these Books.

Address, GEORGE W. FISHER,
 Rochester, N. Y., Sept. 1.—1t. Bookseller and Publisher.

FOR SALE.

A FARM near Kalamazoo, Michigan. For particulars address A. SINTZENICH, Box 1185 Post Office, Rochester, N. Y. August 1.—1t*

MANSFIELD & WHITING'S IMPROVED

CLOVER SEED HULLING AND CLEANING MACHINES.

THESE Machines have been awarded the first Premiums at three successive Ohio State Fairs and the Michigan State Fair. Also at the World's Fair in New York in 1853, and never failed to take the first Premium wherever exhibited.

Warranted to hull and clean from 20 to 50 bushels per day. Prices—No. 1, \$100; No. 2, \$95; No. 3, \$90. To insure a machine order early. Manufactured and for sale by

MANSFIELD & WHITING,
 August 1.—3t* Ashland, Ohio.

IMPORTANT TO FARMERS!

STACK COVERS OF COTTON DUCK.

THE following sizes constantly on hand, or any required size made to order: 15 by 20 feet, 20 by 25 feet, 25 by 30 feet.

First quality, 48 cents per square yard; second quality, 38 cents per square yard, furnished with cords all ready for use.

Covers of either quality will most effectually protect the stack in the heaviest rain storms, rendering it secure as under the barn roof.

The Subscriber has a process he will warrant to preserve the duck from mildew, without in the least discoloring or injuring the material, applied, when so ordered, at four cents extra per square yard.

Orders through the Post Office will meet with prompt attention.

E. C. WILLIAMS, Sail and Tent Maker,
 Sept. 1.—1t. 12 Buffalo street, Rochester, N. Y.

TO AGRICULTURAL & HORTICULTURAL SOCIETIES.

WE would particularly invite the attention of those Societies who are about to make up their PREMIUM LISTS, to our large collection of Agricultural Books, which are peculiarly adapted for Premiums.

The awarding of Agricultural Books in the place of small Money Premiums has been extensively adopted, and has given the highest satisfaction.

ADVANTAGES OF THIS PLAN.

1. It promotes the dissemination of much needed information among farmers.

2. It combines the advantages of a Diploma with a Premium of intrinsic value.

3. It substitutes a permanent and expressive Token of Honor for the pittance which is frequently humiliating to the recipient.

4. It avoids the fostering of a mercenary spirit among competitors, and better comports with the dignity of an honorable emulation between friends and neighbors.

We will be happy to furnish to applicants a Catalogue of those of our Publications which we consider most appropriate for the use of Agricultural Societies for Premiums, on which a liberal discount will be given.

C. M. SEXTON & CO.,
 August 1.—2t. Agricultural Book Publishers,
 140 Fulton street, New York.

FOR SALE.

HAVING to devote my time to other business, I have determined to sell several Farms, now in cultivation under my own direction, and also a Grist Mill and Saw Mill. The mills are situated about six miles from the county seat, in a thickly settled portion of the country, on never failing streams, and healthy locations. There are two run of stones in the Grist Mill, together with all the machinery for manufacturing flour, buckwheat flour, corn meal, &c. The mill is 60 by 40 feet, three stories high, with a 16 feet wheel. The Saw Mill is run by a submerged center discharging wheel, cast gearing; and the Mills, within 80 feet of each other, are run by different streams, and were built in 1851. There is attached to the mills about 200 acres of land, part of which is in cultivation in grain and grass. There are four tenements on the land, rented out; three of them, without any land, pay \$100. The mills are under my own direction, and the miller rents the farm, and pays crop rent. The mills rented last year for \$400. There is a large portion of the land on this farm which is valuable. The Alexandria, Loudoun & Hampshire Railroad passes within 100 yards of the mill, where there is to be a station, &c.

I also have a Farm of 100 acres adjoining the county seat, well improved, good house of brick, orchards, well watered, and all the necessary outbuildings. The Menapies Gap Railroad passes through the village, and also a turnpike road to Washington and Alexandria, which are distant about 15 miles. I have also another Farm of 100 acres, within three-fourths of a mile of the county seat, one half of which is in timber, and the other in cultivation. I am building a house on this, which will be finished by fall. I have also one other Farm of 120 acres, lying about four miles from the county seat, in cultivation by a Northern man, who has resided on it three years.

I will sell any or all of these Lands, &c., on reasonable terms. Persons desiring further information, can address the undersigned at Fairfax Courthouse, Va., who will give information, if desired, relative to his own or any other lands in this or the adjoining counties.

May 1, 1856.—4f. GEO. W. HUNTS, Jr.

BOOKS FOR THE FARMERS!

FURNISHED BY THE PROPRIETOR OF GENESEE FARMER.

- The Cow, Dairy Husbandry, and Cattle Breeding. Price 25 cts.
 Every Lady her own Flower Gardener. Price 25 cents.
 The American Kitchen Gardener. Price 25 cents.
 The American Rose Culturer. Price 25 cents.
 Prize Essay on Manures. By S. L. Dana. Price 25 cents.
 Skinner's Elements of Agriculture. Price 25 cents.
 The Pests of the Farm, with directions for extirpation. Price 25 cents.
 Horses—their Varieties, Breeding, Management, &c. Price 25 cents.
 The Hive and Honey Bee—their Diseases and Remedies. Price 25 cents.
 The Hog—its Diseases and Management. Price 25 cents.
 The American Bird Fancier—Breeding, Raising, &c. 25 cts.
 Domestic Fowls and Ornamental Poultry. Price 25 cents.
 Chemistry made Easy for the Use of Farmers. Price 25 cts.
 The American Poultry Yard. The cheapest and best book published. Price \$1.
 The American Field Book of Manures. Embracing all the Fermenters known, with directions for use. By Browne. \$1.25.
 Buist's Kitchen Gardener. Price 75 cents.
 Stockhart's Chemical Field Lectures. Price \$1.
 Wilson on the Cultivation of Flax. Price 25 cents.
 The Farmer's Cyclopaedia. By Blake. Price \$1.25.
 Allen's Rural Architecture. Price \$1.25.
 Phelps's Bee Keeper's Chart. Illustrated. Price 25 cents.
 Johnston's Lectures on Practical Agriculture. Paper, price 25 cents.
 Johnston's Agricultural Chemistry. Price \$1.25.
 Johnston's Elements of Agricultural Chemistry and Geology. Price \$1.
 Randall's Sheep Husbandry. Price \$1.25.
 Miner's American Bee-Keeper's Manual. Price \$1.
 Dadd's American Cattle Doctor. Complete. Price \$1.
 Fessenden's Complete Farmer and Gardener. 1 vol. Price \$1.25.
 Allen's Treatise on the Culture of the Grape. Price \$1.
 Youatt on the Breeds and Management of Sheep. Price 75 cts.
 Youatt on the Hog. Complete. Price 60 cents.
 Youatt and Martin on Cattle. By Stevens. Price \$1.25.
 The Shepherd's own Book. Edited by Youatt, Skinner and Randall. Price \$2.
 Stephens's Book of the Farm; or Farmer's Guide. Edited by Skinner. Price \$4.
 Allen's American Farm Book. Price \$1.
 The American Florist's Guide. Price 75 cents.
 The Cottage and Farm Bee-Keeper. Price 50 cents.
 Hoare on the Culture of the Grape. Price 50 cents.
 Country Dwellings; or the American Architect. Price \$6.
 Lindley's Guide to the Orchard. Price \$1.25.
 Gunn's Domestic Medicine. A book for every married man and woman. Price \$3.
 Nash's Progressive Farmer. A book for every boy in the country. Price 50 cents.
 Allen's Diseases of Domestic Animals. Price 75 cents.
 Saxton's Rural Hand-books. 2 vols. Price \$2.50.
 Beattie's Southern Agriculture. Price \$1.
 Smith's Landscape Gardening. Containing hints on arranging Parks, Pleasure Grounds, &c. Edited by Lewis F. Allen. Price \$1.25.
 The Farmer's Land Measurer; or Pocket Companion. Price 50 cents.
 Buist's American Flower Garden Directory. Price \$1.25.
 The American Fruit Grower's Guide in Orchard and Garden. Being the most complete book on the subject ever published.
 Quinby's Mysteries of Bee-Keeping explained. Price \$1.
 Rural Annual and Horticultural Directory. Price 25 cents. Do in cloth, 50 cents.
 The above will be sent free upon receipt of price annexed.

The Practical and Scientific Farmer's Own Paper.

THE GENESEE FARMER,

A MONTHLY JOURNAL OF

AGRICULTURE AND HORTICULTURE,

ILLUSTRATED WITH NUMEROUS ENGRAVINGS OF

Farm Buildings, Animals, Implements, Fruits, &c.

VOLUME XVII. FOR 1856.

Fifty Cents a Year, in Advance.

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JOSEPH HARRIS,

November, 1855.

f. Rochester, New York.

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FAIR OF THE NEW JERSEY STATE AG. SOCIETY.

THE Annual Fair of the New Jersey State Agricultural Society was held at Newark, Sept. 9—12. As it was the first Fair of the Society we have had the pleasure of attending, we cannot say how it compared with former exhibitions, but were informed that it excelled them in nearly every department. Newark is within nine miles of New York, and of easy access from all parts of the State, and this exhibition might be expected to be a favorable index of the general condition of agriculture, horticulture and the mechanic arts in the State. While the soil of New Jersey is generally of a poor, sandy nature, requiring the constant application of natural or artificial fertilizers to make it produce good crops, yet the farmers and gardeners enjoy advantages of situation and climate unsurpassed on the continent. We were once accompanying Mr. WILLIAM BENNETT over his justly celebrated farm near Luton in Bedfordshire, England—a farm which, when it came into his possession, was a profitless rabbit warren, supposed to be absolutely sterile, but which at the time of our visit was bearing the most luxuriant crops,—a change which had been effected by good tillage, a judicious rotation, the growth and consumption on the farm of large crops of clover, turnips, &c., with an annual purchase of large quantities of oil-cake for feeding cattle, and of rape-cake, superphosphate of lime and Peruvian guano for dressing the land. On mentioning to him our impression that the soil was naturally very poor, he replied, “Yes, that is true; but it is very *grateful*.” So it is with the soil of New Jersey; it is naturally poor, but very grateful. Only treat it well, and it will make ample returns. No soil shows manure sooner; and crops can be easily and cheaply raised which command good prices in the cities of New York and Philadelphia—probably the two best markets in the world for fruits and vegetables of all kinds.

Under such circumstances, we expected to see a very superior exhibition, at least of fruits and vegetables, at the State Fair. We are sorry to say that we were disappointed. The exhibition, in every particular, was a poor, meagre affair. There can be no doubt that there are many public spirited, intelligent, successful cultivators in New Jersey; but for some reason or other, they appear to take but little interest in the State Fair. The show of fruits, flowers and vegetables, was not equal to that of any good County or Town Fair in Western New York; and the same may be said of nearly all the other departments.

Horse racing, or in modern agricultural phraseology, “trials of speed,” and lady equestrianism, were the principal and most attractive features of the exhibition; but as we did not witness these, we are unable to say anything in regard to the performance of the horses or their riders.

The situation and arrangement of the Fair ground were all that could be desired. “Prospect Hill,” on which the Fair was held, affords a charming view of the cities of Newark and New York, of the valley of the Passaic, Raritan River and Staten Island. The weather during the first two days was delightful. The wealthy citizens of Newark turned out in their unequalled equipages in large numbers; and the intelligent mechanics and well-to-do farmers were well represented. Let us take a walk round the grounds.

Here, among the implements, is a curious-looking machine. It is “Mapes & Gibbs’ Digging Machine,” with a subsoil plow attached. Though we cannot credit all the marvellous stories told of this machine—though we do not believe that “the plow is doomed,”—that a yoke of oxen will break up and pulverise the soil with this machine better, and more of it, than half-a-dozen ordinary plowings and harrowings,—yet we have no doubt that it is a valuable addition to our agricultural implements, and one which is susceptible of profitable use on many farms. We should judge, however, that it would require at least three teams to work it on ordinary land. Here is a new Reaping Machine, invented by N. G. HUBBARD, of Penn Yan, N. Y., constructed entirely of iron, with all the working gear enclosed in an iron case to keep it clean; and there is Mundy’s Patent Potato Digger, which the exhibitors, GRIFFIN & BRO., of 60 Courtlandt st., New York, assure us is a valuable and effective implement. It is simply a double mould-board plow, with interstices about two inches wide cut out of the mould-boards. The plow is run under the rows, and the potatoes drop through these interstices and are left exposed on the surface of the ground. It looks as if it would make better work than the common plow. Here is a Sausage Cutter, exhibited by the same parties, which *cuts* the meat into very small pieces, instead of tearing and crushing it as most machines do.

Now for a walk among the Cattle pens. Here are the stalls appropriated for “Devons.” But where are the animals—“and echo answers, where”? Here is one bull, by no means a superior animal, and he is “For sale.” Devons are at a discount in New Jersey. There are one or two good Short-horns exhibited by the Messrs. HAINES, of Elizabeth, N. J., and

a superior four year old bull, owned and imported by THOS. G. AYRIGG, of Passaic, N. J., and an excellent one owned by PETER SANDFORD, of Orange, N. J. The rest are principally leather and prunella. A Durham cow shown by J. J. MAPES must have been fed on the Professor's *phosphates*, as she is a complete "bag of bones." EZRA NYE, of Clinton, N. J., (we believe late captain of one of the Collins steamers,) showed some excellent Ayrshires. HENRY SUTCLIFFE and a few other gentlemen also exhibit some fair specimens of this excellent breed of cattle. We expected to have seen some of Mr. COLT's Alderneys, but regretted to learn that he was prevented by sudden illness from exhibiting. Here is a "Chinese Cow," owned by Dr. JOHN A. POOLE, of New Brunswick, N. J. She resembles somewhat the Short-horns.

Here we are among the Sheep. There are very few fire-wooled sheep—good, bad or indifferent. The Cotswolds appear to be the favorite breed. Of these, GEO. C. SHAW, Gratitude, N. J., exhibited some superior specimens. HUGH EATON, of Clinton, N. J., also exhibited some good sheep of this excellent breed; and GEO. HARTSHORN several pens of "native Cotswolds." There were several pens of "fat sheep," most of which were really excellent. They were, we should judge, a cross between the Cotswold and the common Merino. This pen of South Downs, shown by GEO. HARTSHORN, of Rahway, N. J., are a credit to the State, and to their owner in particular. He also shows some "native South Downs." We do not know whether these "native South Downs" and "native Cotswolds" have any special privileges not accorded to the "furniers," or what is the particular object of making the distinction. J. C. TAYLOR, of Holmden, N. J., shows some splendid South Downs, obtained from L. G. MORRIS, and C. F. JOHNSON, of Pompton, and others exhibited in this class. Here are some "Merinos imported from China," by HAZEL GROCEIN, of Norristown, N. J., and there are some South American sheep with four horns, shown by D. W. DALRUMPLE, of Lodi, N. J. "Isn't there a somewhat celebrated breed of sheep, called Leicesters, improved or originated by one Robert Bakewell?" Yes, sir; but they have not heard of them here in New Jersey!

The show of Pigs is creditable. These "Suffolk and Chinese," belonging to EZRA NYE, are beauties. Such a cross will doubtless do well in the Middle States, but in the Northwest the Suffolks are small enough and tender enough without crossing them with the Chinese. O. P. EDWARDS, of Elizabeth, N. J., also exhibited some beautiful Chinese Suffolks. J. B. EDGAR and JAS. LONGE, of Rahway, N. J., show some good Berkshires, and the Messrs. HAINES and GEO. HARTSHORN are large exhibitors of Suffolks. Those of the former would be hard to beat, here or in England. The Messrs. H. also exhibit some good Leicesters—considered by many the best of the large breeds.

"Can there anything good come out of New Jersey?" Yes, sir; here is a new idea, and a good one. An enterprising nurseryman of Newark, J. GUSTIN, has brought from his nurseries a collection of evergreen trees, and "laid them by the heels" near the entrance to the Floral Tent. We hope to see the practice adopted at all our Fairs. It would do much to diffuse a taste for ornamental planting.

Let us have a look at the Fruits. Here are a single specimen each of 110 varieties of pears, grown

by WM. REED, of Elizabeth, N. J. D. BANDLETON, of the same place, shows 52 varieties; and here are 18 varieties grown by J. VAN DEWENTER, of Princeton, N. J., which are decidedly fine in size, and especially in color. Those Duchesse d'Angouleme, and Louise bonne de Jersey, and Vicar of Winkfield, would be hard to beat, even in Western New York. But here is Mr. VAN DEWENTER. "How do you manage to raise such fine pears?" "By high culture and deep trenching. Before planting the trees, I made a trench four feet wide and two feet deep, and put an underdrain under each row of trees one foot deeper. Fill in the trench with sods mixed with bones, leather shavings, ashes and lime, and a little well rotted manure; cover with rich soil. Plant the trees; cultivate nothing among them, (except sometimes plant a row of strawberries between the rows,) mulch with tan-bark; keep the land free from weeds; scatter the tan over the land in the fall and turn it under. The soil is clayey. I find that the tan-bark, besides enriching, serves to lighten the soil."

Here are 12 pears, "grown on an 'apple stock.' Quite likely, but the trees will soon die. There are few peaches, or plums, or apples, worth noticing. There are a few grapes, but nothing like what we should expect, either in quantity or quality.

Here is some spring wheat, "66 lbs. to the bushel," grown by ISAAC SHINER, of Greenville; and there some weighing "71 lbs. per bushel," grown by A. DAVIS, of Andover. Good for Jersey. We cannot help suspecting that a bushel is larger in New Jersey than in the U. States! These ears of corn, grown by Master J. F. SALTSTHWAITE of Bellville, are the finest we ever saw. There are about *forty rows* on the ear, of some six or seven inches in length!

WHEAT THE PRINCIPAL BREAD-FOOD OF MAN.

ALTHOUGH a native of temperate climates, wheat is a remarkably hardy plant, and lives through the severest winters of the north of Europe, while, on the other hand, it thrives even under the burning suns of the torrid zone. In this respect wheat has a much larger range of habitat than any of the other cereals; an indirect but palpable proof that it was intended by infinite wisdom to form the peculiar and principal bread-food of the human race. A still further proof of this is to be found in the fact that few animals relish wheat in any form, and invariably prefer oats, barley, or beans, if a choice be given them. Again, all of these grains, when used as the principal food of man, are accompanied by effects detrimental to a high degree of health. An exclusively oaten diet produces skin eruptions, barley bread is too bland and unexciting to persons engaged in active pursuits, and bread made from bean or pea-meal is heavy and indigestible. Wheat-flour with the bran in it answers all the purposes of life, and is susceptible of being converted into an endless variety of articles of diet.

FATTENING HOGS—Commence fattening hogs this month—feed them *regularly*, and not let them squal their flesh away by waiting for their stated meals—if apples are plenty, they will fatten finely on the fallen fruit for two months—in feeding corn, let it be ground and boiled with water, and its value will be nearly doubled—if it cannot be boiled, soak it for a few days, and let it ferment a little. This will improve it.—*Ex.*

STOCKHARDT'S CHEMICAL FIELD LECTURES.

In the back volumes of the *Genesee Farmer* we have spoken highly of this work. We are glad to perceive that this opinion is endorsed by such high authority as that of Dr. LINDLEY. In the London *Gardener's Chronicle* we find the following:

CHEMICAL FIELD LECTURES, by Dr. Stöckhardt (12mo., pp. 378.) Under this name has just appeared a volume of Bohn's Scientific Library. It contains the lectures of a gentleman who has gained considerable reputation in Saxony for a sound knowledge of vegetable physiology, and who is also Professor of Forestry and Agriculture at Tharand. Professor Henfrey is the translator and annotator.

We have read the work carefully, and we can say conscientiously that for practical purposes it is calculated to be of more real value than the similar work of Baron Liebig, notwithstanding the learned author's cumbersome sentences, which Mr. Henfrey will, we trust, forgive us for saying are not rendered more elegant in the translation. It is notorious that when Liebig took up the subject of agricultural chemistry he was entirely unacquainted with vegetable physiology, as the first edition of his celebrated work sufficiently proved, and as we have long since pointed out. Nor can we say that his latest writings indicate any material advance in practical physiology. In fact he is a mere chemist, though no doubt of the highest order. Dr. Stöckhardt, on the other hand, seems to be a practical forester and farmer as well as a man of science; and this gives his opinions a value which those of cabinet philosophers never can have. This is more especially shown by the manner in which he handles the well-known dispute between Liebig and Lawes, taking the side of the latter, like all men really acquainted with the cultivation of the soil.

We do not dwell further in this place on Prof. Stöckhardt's work, because we hope to be able to refer to it on other occasions; but we must not dismiss it without one extract characteristic of the author's style. Speaking of refuse materials he says:

"One thing is above all necessary for this, namely that the farmer shall distinguish his true friends from the false, and give the latter their dismissal. One friend of the latter sort has been especially successful in acquiring and retaining the favor of farmers, and many hold warmly to him and love him like a brother; this is the well-known worthy 'old O.' Acquainted with most from their youth upward, and readily borne with because he never contradicts, but always humors them, old O. has become on many farms not only a well-beloved home-friend, but also infallible oracle, whose counsel is sought when decisions are to be made or doubts of any kind arise. Pacific and quiet-loving as old O. is by nature, he can also be very fierce when any one tries to disturb him, and hence novelties are an abomination to him. Against these he fights with an obstinacy which it is difficult to overcome, because the weapons which one thinks sharpest lose their edge upon him; for, like Falstaff, he does enter into battles for 'reasons,' which bound harmless of the Hegelian shield with which he covers himself: 'What is, is good.' If the farm-yard drainage runs away, and this is represented to him, the answer is, 'Oh, that has always been so.' If one shows him the advantage he would derive from introducing a rational system of rotation of crops, he says, 'Ah, my grandfather kept to three-field farming, and yet he lived in clover.' If one recommends deep ploughing, he replies, 'Yes, that may do in other places, but our fields won't bear it, as we must know best who have grown upon them.' When we calculate to him the profit he might obtain by purchasing guano, he objects: 'I had rather buy straw;

straw remains straw; dear stuffs won't suit our fields.' And more of the like sentences.

"Yes, it is difficult to get over him, the good old O., or to give him his full name 'Old Style,' for the different natural propensities and peculiarities of character which have descended to him from his grandfather, who was called 'Egotism,' his father the well-known 'Phlegm,' and his mother, one of the 'Verjuice' family, are united in him into such a compact, tough and solid nature, that even lye and aquafortis do not exert much action on it—into a nature which is also inherited by his numerous children, called 'Prejudices.' How shall we make an impression on an individual who, like the Marquis Posa, says with dignity, 'I am content with myself,' and holds the words 'old and good' as synonymous and opposed to 'new and bad,' without evidence or judgment? I imagine by good example, and by continual, ever-new teaching, explaining and pointing to this good example.

"Far be it from me to declare war against all that is old. No, indeed! Would to heaven many old things were still as they have been! It would certainly be far better, even in the farms of the country folks."

MANAGEMENT OF BLUE GRASS PASTURES.—A correspondent of the *Tennessee Farmer* in an article on the cultivation of the celebrated blue grass of Kentucky, (*Poa pratensis*), gives the following directions for the management of blue grass pastures, which are worthy of consideration:

"The experience of all stock farmers has taught them that the ground must be well packed, both to prevent the freezing process of winter from throwing the grass out of the ground to die, and to protect the grass from the drouth of spring and summer. If the ground be tramped hard, the grass will not be killed by hard freezing, nor by dry weather, but if the soil be loose, it will be damaged or destroyed by either.

"Do not graze your lots early in the spring. As soon as the grass begins to grow, nothing ought to go on them till the spring crop of grass is made. Nothing should be allowed to run on them till the stalk of the blue grass gets about three inches long. If you allow your lots to be grazed at all in early spring, they will make puny and scanty grass the remainder of the season.

"Do not let the grass go to seed. We have seen the injury of grazing too soon; it must now be understood that delaying to graze at the proper time will also injure it. When the seed stalk of the blue grass gets about three inches long, all lots ought to be grazed off as rapidly as possible. Do not put some stock in every lot, but put all you have in one lot; and when grazed down, turn on another, and so on in rapid succession, till the seed stalks in all are fed down so as to prevent them from making seed. If any grass be allowed to make seed, the seeding process will exhaust the roots of the grass, and make it dwarfish for a whole year. But if the seed stalks be grazed off just before seeding, the grass shoots and spreads rapidly from the roots, and sends up a luxuriant growth of blades. You ought not therefore to depend on setting the ground by letting the grass make seed to set it, because if not allowed to make seed, the spreading from the roots will set it much sooner, and also afford more pasture in the meantime."

HOW TO FATTEN FOWLS.—Confine your fowls in a large airy enclosure, and feed them on broken Indian corn, Indian meal, or mush, with raw potatoes cut into small pieces, not larger than a filbert, placing within their reach a quantity of charcoal broken into small pieces. Boiled rice is also good.

PROVINCIAL FAIR OF CANADA WEST.

THE great Provincial Fair of Canada West was held at Kingston, September 23-26. Though not quite equal to the Fair at Cobourg last year, it was in every respect an honor to the Province. The citizens of Kingston had provided beautiful grounds, about two miles from the city, and erected a "Crystal Palace," at an expense of about \$8,000! for holding the exhibition of fruits, flowers, domestic manufactures, specimens of fine arts, &c. It is proposed to use the building as a conservatory for the cultivation of grapes, flowers, &c. It is thought that the vines will not materially obstruct the light. We apprehend that an effort will be made to have the Fair permanently located at Kingston, or at all events, to have Kingston one of three or four places on Lake Ontario, at which the Fair shall be regularly held.

The show of Horses was far inferior to the grand display made at Hamilton in 1853, or even to that at Cobourg last year. There were nearly two hundred entries, and among them some very superior horses, especially among the "Stallions for agricultural purposes"—a class of heavy horses of which we have few representatives in this country. The show of Cattle and Sheep was not as large as at some former exhibitions—Kingston is too far from the western portion of the Province. The list of entries were as follows: Durhams, 88; Ayrshires, 40; Galloways, 39; Devons, 15; Herefords, 4; Grades, 59.

The Devons and Herefords were poorly represented in number and kind. Galloways have been imported into the Province only within the last few years, but it is evident that they are destined to become popular. The judges in their report say that they "consider this breed of cattle very valuable, and suited to this country and climate." They are a large, hardy breed of polled black cattle, of excellent symmetry and handling properties. In winter they are covered with long shaggy hair, and their hides would make excellent substitutes for buffalo robes. Those who have been advocating the domestication of the buffalo, for the continued supply of these necessary adjuncts of winter travel in northern regions, will please make a note of the fact!

Whether Durhams will or will not "stand starvation" as well as some other breeds, it is evident that they are at present the favorites in Canada. F. W. STONE, Esq., of Moreton Lodge, near Guelph, C. W., exhibited a large number of Shorthorns which we have never seen excelled in this country or in Great Britain. He has within the last two years imported fifty-five head of the best Oxford and Dutchess Shorthorns that money would purchase. He attended the recent exhibition of the Royal Agricultural Society, at Cheltenham, and bought several of the prize Shorthorns, as well as a number of South Down and Cotswold sheep—some twenty-eight head in all. Such an enterprising breeder is an honor to any country. WM. MILLER, of Pickering, and GEO. MILLER, of Markham, also exhibited some superior recently imported Shorthorns. RALPH WADE, JR., of Coburg, exhibited eleven head of good Shorthorns, and MESSRS. MILLER and BEATTIE, of Pickering, and W. & R. ARMSTRONG, of Markham, showed each an excellent yearling bull, recently imported.

GEO. and WM. RODDICK, of Hamilton Township, and W. R. GRAHAM, Esq., of Vaughan, were the chief exhibitors of Galloways. Four head, belonging to

the latter gentleman, were brought direct to the Fair ground from the vessel in which they were imported. They were in excellent condition, having suffered little from the voyage—a good proof of their hardiness.

There were few, if any, Ayrshires, Devons or Herefords, of any great merit.

In Sheep, the entries were as follows: Leicesters, 128; South Downs, 43; Cotswolds, 26; Merino and Saxony, 20; Cheviots, 16.

It will be seen that the Leicesters are by far the most popular breed of sheep in Canada. There were 36 two-year-old Leicester rams, and when drawn out and placed in a row for examination by the judges, they made a grand display, as did also the 22 yearling rams. JAMES PERRY, of Hay, exhibited a splendid ram, imported this summer; JAMES DICKSON, of Clarke, and C. WALKER, of London, also showed some magnificent Leicesters. WM. MILLER, of Pickering, exhibited 28 head of Leicesters, many of them imported, and all remarkably good. GEO. MILLER, of Markham, and many others, also showed excellent Leicesters. "But" we are asked, "are they Leicesters"? To this question, which was repeatedly put to us, we have no hesitation in replying, "No; they are Scotch Leicesters, but not the genuine English Leicesters. They are far too large. They have probably considerable Teeswater and Cotswold blood in them. They are, however, a fully established breed—as much so, perhaps, as the genuine Leicesters, and we can easily believe that they are harder and more profitable, producing a large amount of mutton for the food consumed."

The show of South Downs was small. For some cause or other, this breed is not as popular in Canada as it deserves to be. Such sheep as those shown by JOHN SPENCER, of Whitby, and some other South Down breeders, ought to commend themselves to Canadian farmers.

We are glad to find such excellent Cotswolds in Canada. F. W. STONE, Esq., of Moreton Lodge, near Guelph, C. W., showed a large number of Cotswolds, many of them recently imported, which we have never seen surpassed. GEO. & WM. MILLER, and a few others, also showed good Cotswolds.

Cheviots were shown by JAS. DICKSON, of Clarke, WM. RODDICK, of Hamilton, and J. HAWKINS, of Wolfe Island.

The show of Pigs was far better than at Cobourg. There were 21 entries of the "Large Breed," and 71 of the "Small Breed." Of the former, a Yorkshire boar shown by R. COATES, of Oakville, and a Yorkshire sow belonging to C. A. JORDISON of Port Hope, and a Nottinghamshire boar shown by JOHN SCOTT of Montreal, were conspicuous. Of the latter, several pens deserve notice. A fine Suffolk boar, shown by MR. LOGAN, of Montreal, attracted much attention. THOMAS BRIGGS, Esq., of Kingston, also showed excellent Suffolks, and also some beautiful Essex, (of FISHER HOBBS' breed,) and a cross between the Cumberland and Essex. JAMES DURAND and Major SADDLER, of Kingston, also showed good Suffolks. JOHN HITCHINS, of Amherst Island, showed a small black breed, a cross between the Essex and Chinese, which was excellent. F. W. STONE, Esq., of Moreton Lodge, near Guelph, showed some recently imported "Small Yorkshires," perfect beauties. JAMES RAMSEY of Pittsburg, and J. W. PARMENTER of Gananoque, showed good Berkshires.

The show of Poultry was very large and excellent. The "chicken fever" has not yet subsided in Canada, judging from the immense number of fowls of the Asiatic varieties shown.

There were fewer Implements exhibited than at many previous Fairs, but there were several that deserve a more extended notice than our space this month allows us to give them. HENRY GOING, of Wolfe Island, exhibited a Mowing Machine, constructed on a new principle, which bids fair to be of great value. He also exhibits a Cultivator, with the teeth fixed on movable bars, so that they will adjust themselves to any irregularities in the ground. H. D. JOHNSON, of Hamilton Township, exhibited a Reaper with a new contrivance for obviating the side-draft, which strikes us favorably. JOHN LENT, of Cobourg, shows a new Potato-Digger, which is very ingenious, but we fear too complicated. The potatoes are thrown up with a shovel plow on to a revolving carrier, on the principle of the common straw carrier. This is so constructed that the soil falls through, and the potatoes are delivered in a basket. We heard a farmer remark that on his farm he should "get more stones than potatoes." S. ECKHART, of Unionville, also exhibited a Potato-Digger, which is said to make good work. Two small plows in front of the machine take a furrow from each side of the row; a scoop shovel throws up the potatoes, and a revolving harrow follows to bring the potatoes to the surface.

The show of wheat was splendid. The Canada Company offer a prize of £25 for the best twenty bushels of wheat—the prize wheat to be given to the Company. There were some eight or nine entries for this premium, and finer samples of wheat we have never seen. One weighed "67½ lbs per bushel." Of other grains, vegetables, dairy products, &c., the show was far inferior to that at Cobourg last year. The same may be said of fruits, flowers, &c.

It was decided to hold the next Fair at Brantford. Mr. ALEXANDER, of Woodstock, was chosen President—an excellent choice.

USE YOUR JUDGMENT.—Men to whom agricultural papers are new, often object to them that they contain things which are not true; or that Mr. So and So followed some prescription found in such a journal, and came out badly with his experiment. Let such a man ask himself what proportion of the whole matter found in *any newspaper* is true. Here are two papers on opposite sides in politics, contradicting each other through the whole length of their columns. Which of these is right?

The fact is, that pure and absolute truth is not to be looked for in the present imperfect condition of the human mind, in any mortal production. To suppose that it is so, is to make men not only universally honest, but infallible. Every man, who either relates a story or gives an opinion, either in conversation or writing, mixes up with the absolute and ascertained facts in the case, certain inferences of his own, which he states in the same breath, and without any indications that they are inferences; and though they may appear to him entirely legitimate, they are liable to be wrong. Hence, on the part of the hearer, there is requisite a use of judgment to sift and settle what is right or wrong in the story. Nothing is therefore to be swallowed whole. Make use of your judgment.

TO PREVENT SMUT IN WHEAT.

A correspondent of the *California Farmer*, J. D. MORLEY, Stanislaus county, Cal., gives the results of the following experiments to prevent smut in wheat: He says:

"I sowed 200 pounds of wheat on one acre of ground, in three separate divisions; first 66⅔ pounds of smutty wheat, washed in bluestone and dried with lime. This wheat is almost entirely free from smut, and it is with great difficulty that a head of smut can be found in it.

"Next comes the parcel that was washed in chloride of lime and dried in lime. In this parcel it is as difficult to find a head of wheat as to find a head of smut in the first named piece.

"The third parcel was washed in strong brine, and dried with lime as the two first were. This parcel is like unto the second parcel, smutty as the smuttiest of wheat."

We suppose that by "bluestone" is meant blue vitriol, (sulphate of copper.) As early as 1816, Sir JOHN SINCLAIR recommended the use of blue vitriol in pickling wheat to prevent smut. Subsequent experiments, and the experience of all who have used it, prove that it is the best substance yet discovered for this purpose.

The quantity of blue vitriol generally used in pickling wheat, is one and a half pounds dissolved in two gallons of hot water, to eight bushels of wheat.—Spread out the wheat on the barn floor about six inches deep and sprinkle the solution over it, and then mix thoroughly with shovels until the wheat has acquired a uniform degree of dampness. It will be ready for sowing in the course of two or three hours, but it is better to have the pickling done a day before sowing. In the above experiment, Mr. MORLEY dried the wheat with lime, but this is unnecessary. The lime, too, would decompose the sulphate of copper—forming sulphate of lime (plaster)—and neutralize its effect.

COWS HOLDING UP THEIR MILK.

I once had a cow from which I could not get a drop of milk. I fed her, coaxed her, and tried by all the gentle means I could think of, but all in vain; the milk would not come. I discovered that she held her milk by contracting her muscles, and that in so doing, she rounded up her back. The thought struck me, that if I could keep her back straight, she could not retain her milk; and by way of experiment, I held the sharp corner of a small stick of wood on her back with one hand, and while milking with the other, found she had not the power to hold her milk. I then sawed a piece of board just long enough to reach from the flooring over head to the cow's back, as she stood in her natural position, fastened one end of the board to the upper flooring, by a leather hinge, hewed the other out thin and sharp like a wedge, and let it hang down over the cow. When I commenced milking she would attempt to raise her back to contract the muscles, but the wedge-like end of the board was more than a match for her. She could not round her back, nor retain her milk, and in a few days was entirely cured of the evil habit.—*Correspondent of Portland Pleasure Boat.*

SUNFLOWER SEEDS FOR FOUNDER IN HORSES.—Sunflower seeds are said to be the best known remedy for founder in horses. As soon as ascertained he is foundered, mix one pint of the seed whole with the feed, and an entire cure may be expected.—*Exchange.*

IMPROVEMENT OF SOILS BY SCIENCE.

To thoroughly understand the relations of science to the improvement of soils, would require a more lengthy consideration of the relations of science with agriculture, and what is necessary for the growth of vegetation, than I shall be able to enter upon at this time. But a few hints now, and more anon, may perhaps awake some to the study of their soils.

In the first place, agriculture is both an art and a science. It may be considered as an art, in bringing forth from the soil, without exhausting the same and at the least expense, the greatest quantity and the best quality of merchantable produce; while as a science, it searches out those great principles comprised, and the laws of nature which are unfolded in chemistry, geology, botany, &c. Chemistry finds out the real component parts of soils, the food necessary for plants, together with the action and influence of air, water, and their elements; also of manures which may be added to improve and increase the product or the texture of the soil—which should interest every farmer. Geology traces out the action of water; also of all the agents, such as heat and cold, the action of the atmosphere, and where to find mineral manures, &c. Botany gives us the habits and characters of plants, how they may be raised to advantage, or turned to account, and must be studied to advantage by the farmer. We might name many more important suggestions, which come under the head of the sciences spoken of; but we need *results* of investigations more than the mere narration of what these sciences suggest, and then the *best way* to bring these result into practice.

In order to improve an exhausted soil in the right manner, it is necessary for us to understand—First: what vegetation requires to sustain it and bring it to maturity.—Second: what vegetation draws from the soil while growing.—And third: what the soil is composed of. And these may be found principally in the sciences above alluded to.

All plants extract their nourishment directly or indirectly from the earth and the atmosphere. It is well known that “all animal elements are drawn from the mineral kingdom, by the aid of the vegetable kingdom;” for all animals live upon vegetation, or upon other animals whose nourishment came directly or indirectly from vegetation. Then again all of these plants and animals die and decay, while the particles which composed the body or plant return once more to their former place, (the earth and the atmosphere,) from which they first originated; and we find that same plant which first sprung up and furnished food, &c., again returns to its former place,—the produce of its putrefaction is again absorbed by other products or plants, and thus it serves for food for an indefinite period of time.

But to speak more particularly of the soil in promoting the growth of plants: it should contain moisture and warmth, together with the light of the sun and presence of air, and last though not least, we would say it should contain the necessary food of plants, to wit, organic matter from decaying or partially decaying animals or vegetables. Air, warmth, and moisture, are three necessary conditions to germinate seeds, and should be continued until the seed is brought to perfection, but here it will never arrive without the presence of the sun's light. It is necessary to produce the sugar, or the acids, or the woody

fibre so essential to many plants, together with that green color “which arrays all nature in beauty.”

The animal elements which are drawn from the soil by vegetation, may be ascertained by an analysis of the ashes of the various vegetables grown; but analyses of such crops is not easily ascertained by every farmer, and consequently very few know how fast they are exhausting their soil, by raising all they can and selling the same all off the farm. Suffice it to say, that in the common crops grown, such as grass, wheat, rye, Indian corn, oats, &c., they are taking from their farms every year large quantities of phosphoric and sulphuric acid, lime, soda, potassa, magnesia, oxide of iron, &c., varying according to the crops grown, which in a few years must plainly be seen upon clayey or light sandy soils. The difference would not be as plainly seen for many years more, perhaps, on the rich alluvial soils of western prairies, or river bottoms which are rich in organic matter. Animal bones are composed principally of phosphate of lime, which they derive entirely from their food, while all grains, and nearly all seeds, contain more or less phosphates and other mineral substances. Now, as most of these minerals enter largely into the composition of plants, and most of them are necessary to every plant, then why not see that they are returned to the soil from whence they came? Is it to be wondered at, that many long cultivated farms are now poor, and that scarcely any kind of grain can be raised with profit? By a little attention to animal and vegetable economy, the mineral matter of plants, which seems to be of so small amount, would be made to turn you more than one hundred per cent. See that nothing is taken from the soil that is not replaced again.

The farmer should understand of what the soil is composed, before he can apply seed or manure with any degree of assurance as to the result. This is only ascertained by a very careful chemical analysis, and while very few persons are qualified to make such analyses, few only are made, and that at a cost of fifty dollars or thereabouts, according to the time, trouble and expense. Consequently, very few farmers ever come in possession of the real value of their soils. All poor soils, however, will be greatly benefited by a liberal dressing of a compost of wood ashes, swamp muck, (when it can be had,) gypsum, and a little salt, wet with the urine from the stables, which is generally suffered to waste; or if the organic matter is exhausted, turn under a crop of green clover, or grass of any kind, well dressed with barnyard manure or straw before plowing. This will make the soil loose and lively.

To illustrate the value of improving soils by science, let us take two farmers, (and you can find such in almost every neighborhood, with some exceptions:) the one is farming for present use; the other—a scientific man—is farming for profit, and as if his farm was to be his *future* home as well as his present home. When they commence, each owns the same quantity of land—say fifty acres. The farms have been cropped for a number of years, and yet appear in good condition. They commence plowing. “Farmer Now” plows his ground five inches deep, the same as it has been plowed for years; he raises an average crop—hauls his grain and hay together—sells all the surplus. Fall comes on, and he harvests his corn and potatoes; the one he throws in a pen made of rails, and covers with hay, the other (the

potatoes) he buries in a pit, covering from six to ten inches with dirt. The winter arrives; he has just finished a handsome house, and furnished it throughout with sofas for ease; the stand is filled with choice miscellany—the History of the Russian War, &c. In the evening he amuses himself in reading an interesting novel, until the night is one-third gone; he retires to rest with his brain full of nonsense. The next morning finds him sleepy—rather late out to attend to his cattle, which are shivering with cold; he scatters some hay on the ground for them—throws some corn to the hogs, and shells some in the snow for the hens to pick up. He goes in to look at the horses, and finds them shivering with the cold, and a little snow lying around them that has drifted through the open cracks of the stable. The horses welcome him by neighing, as if to ask for better care; but a little fresh hay and half a dozen ears of corn is what they get. He now turns his steps towards the house again, and in his hurry forgets to water his cattle, and also to clean off his horses. The weather grows colder every day, and “Farmer Now” spends his time mostly in-door, except when the absence of fire warns him that the wood-pile is very low, and as would be natural in such a case, he hauls up a load of green wood, to last the next few days until the weather moderates—when he forgets to haul more. The afternoon is pleasant on Saturday, and he rides over to the post-office; gets some letters, the Brother Jonathan and Dispatch; subscribes for the Pictorial, because he has not time to read the Patent Office Report on Agriculture, nor does he care about reading the agricultural columns of his family newspaper. Thus one day after another passes away, until the spring once more arrives. This finds the fences in rather bad condition; but they are partially righted up before plowing time, so as to keep the cattle out until the crops are fairly started. “Farmer Now” does not wish to spend his time hauling manure, as long as he “can sell it to ‘Farmer All-the-Time’ for one-and-six per load,” and thus save all trouble. He has to turn his cows and hogs on the road to pasture until after harvest; for this year farming must be done on a large scale: much money must be raised to buy a carriage, build a carriage-house, and fence the dooryard over more fancy, (that is, a little extra). Thus farming continues for three years, when it becomes evident to “Farmer Now” that he must change the order of his farming, and he commences improvements, experiments, &c. W.—*Milan, Ohio.*

[To be continued.]

TAKE CARE OF YOUR TOOLS.—As I have seen rakes hanging on corners of fences, or sticking in the mud, I wish to caution farmers against such economy; for “Poor Richard,” *alias* BENJ. FRANKLIN, used as a standing rule, “A penny saved is as good as two earned;” by which rule, if applied to the case of tools, a great many pennies may be as good for next year’s service as if earned, and will cost perhaps not a quarter of an hour in picking up tools, and bestowing them in a good dry corner until wanted for next year’s use, when they will be “as good as new”—especially if they receive an oiling previous to lying by. The same may be said of those scythes which are hanging in the trees. Take them down; oil the snathes thoroughly, and put them, with the scythes and whetstones, in a safe place for wintering. Then note the profit and loss. D.—*Gates.*

APPLICATION OF BARN-YARD MANURE.

MESSRS. EDITORS:—For the last twenty years and over, I have acted in opposition to theorists in the application of barn-yard manure. Generally I have had it heaped in the yard in spring, or else drawn to the field where it was to be used and heaped there; and immediately after sowing wheat in September had it spread over the grass field intended for corn the previous season, and let it lay until next April or May, and plow it under for corn. Now many say I lose the good of the manure by the rains and evaporation. This I do not believe, nor will I until I see those who plow under the manure as it is drawn out raise better crops. Then and not till then will I give up my plan. But it requires to be got all out before about October 10th, and then the grass immediately grows up through the manure, and shelters both the manure and land through winter; and, even if clay land, it plows up mellow in spring.

I had two reasons inducing me to try this plan of manuring. One was to get the pigeon weed sprouted in the fall, as it will not vegetate at any other season than from August until frost comes. The other was because I never saw manure applied to wheat in any way that produced so good a crop, and required as little manure, as when it was applied immediately before sowing and harrowed in with the seed, or else put on after sowing and harrowing the wheat. I mean, of course, rotten manure. A very little manure either way makes an astonishing difference in the crop on all hard lands. Nothing I ever saw equals it. And almost every farmer knows that a very little manure on his grass land has a wonderful effect, and for years. Therefore I thought that if I enriched the soil and also had a rich coat of grass to plow under, it was more sure to produce a good crop of corn than if I were to have the manure in the bottom of the furrow, where it would be of little if any use in our dry seasons. At all events, you saw one crop of corn I raised, and you can have some idea whether my practice is good or bad. Yours truly,

Near Geneva, N. Y.

JOHN JOHNSTON.

[The crop of corn referred to was one of the best we ever saw. We are not among the “theorists” referred to by our respected correspondent, who think there is much loss of ammonia and other fertilizing matter by spreading manure on the land in the fall. We should expect a far greater loss from placing it in a heap in the spring, unless great care was used to compress it or cover it with soil. We think this the weak point in the practice.]—Eds.

OPEN DITCHES ON CLAY LAND.—A celebrated English land drainer, J. B. DENTON, says: “With respect to open ‘land ditches’ as a means of draining soils of a tenacious nature, it is notorious with all men practically acquainted with the subject, that they fail altogether in that object. It is often observable that a clay subsoil at a given depth is wetter within a yard of an open ditch than within three times that distance of a sufficiently deep underdrain.”

It will be seen to what extent turnips are grown in England, by the fact that it required one hundred and fifty acres of land to grow seed enough of one variety—Skirving’s Hybrid Swede—for Mr. SKIRVING himself, exclusive of a large amount grown by other persons.

PEAT AND PEAT CHARCOAL AS ABSORBENTS OF AMMONIA.

THE use of charcoal in stables and barn yards for the absorption of ammonia, is a standing recommendation in several of our agricultural papers—especially of some of the pseudo-scientific journals, which, in spite of the exposition of their numerous errors, still continue to retard the march of agricultural improvement, by publishing statements that cannot fail to deepen that contempt felt by many good practical farmers for every recommendation issuing from the laboratory of the chemist, or the sanctum of an editor. The power of charcoal as an absorbent of ammonia has been greatly overrated. It is true that in the experiments of THEODORE DE SAUSSURE, charcoal absorbed ammonia equal to ninety times its volume. In other words, a cubic yard of charcoal would absorb about one hundred pounds of ammonia—or equal to the quantity contained in ten tons of ordinary barn yard manure. The adherents of charcoal as an absorbent of ammonia, base their recommendation on this experiment—forgetting to state one important fact connected with it. The charcoal on which SAUSSURE experimented was heated to redness, and while red hot was plunged into mercury, and when cool, without being exposed to the atmosphere, was plunged in ammoniacal gas. If charcoal could always be heated red hot and cooled under mercury, it might be a valuable absorbent of ammonia. But this cannot be done. The charcoal which is used for this purpose, has generally been exposed to the atmosphere for some time before it is used, and its pores are filled with air and moisture. The practical question is not whether charcoal can be placed in such a condition as to absorb ninety times its volume of ammonia, but whether it will absorb it in the condition in which it is usually employed. On this point recent experiments throw much light.

ALLEN and PREPYS found that beech wood charcoal increased in weight, by a week's exposure, 16.3 per cent. The matter absorbed consisted principally of watery vapor, which is greedily imbibed by newly made charcoal. It follows from this that charcoal mixed with the soil, or exposed to the air, would soon become saturated with moisture. It has been supposed that ammonia would displace water in charcoal, but the experiments of Prof. WAX have led him to a different conclusion. He says:

"Great misconception exists in regard to the powers of charcoal. Charcoal is known to have the power of absorbing ammonia and other gases, and that to a very considerable extent; it is taken for granted, therefore, that its power exists equally under all circumstances; but such is not the case. It absorbs ammonia, by virtue, principally of its great porosity—by a kind of surface attraction—an attraction possessed by all solids for gases, and having relation of course to the quantity of surface—hence, charcoal, in common with all porous bodies offering in a given weight a large amount of surface, has a great absorptive power for gases. But this power is also possessed in an eminent degree by water—more especially is this the case where gases largely soluble in water are in question. When, therefore, we treat charcoal saturated with ammoniacal gas, with water, the superior attraction of the water comes into play, and the ammonia is transferred from the charcoal to the solution. In the opposite case, that is to say, when a solution of ammonia is filtered through charcoal, its strength cannot be sensibly diminished.

Indeed this fact has been experimentally demonstrated by Dr. ANDERSON, who published a series of trials, proving the want of power in charcoal to remove ammonia from solution, and I have myself made experiments of the same kind with a like result."—*Journal of the Royal Ag. Society*, vol. 15, page 158.

Dr. DAVY has recently published the results of his experiments with peat and peat charcoal as absorbents of ammonia, from which it appears that fermenting urine mixed with peat charcoal, lost three-fourths of all the ammonia it contained, while the same urine mixed with the same peat *not charred*, lost no ammonia by several days exposure to the atmosphere.

"These experiments," says Dr. DAVY, "show that peat charcoal (contrary to the many statements which have been made by its advocates,) has very little power of absorbing and retaining the ammonia of excrementitious matter when mixed with it; whereas, peat possesses this remarkable property in an eminent degree, and absorbs and retains it in a most striking manner."

SOAKING SEED WHEAT IN STRONG BRINE.—The *New England Farmer* recommends farmers to prepare their seed wheat by "soaking it over night in strong brine, and roll it in plaster or lime."

We have had some experience in pickling seed wheat with brine. Our ordinary way of preparing seed wheat has been to empty about ten bushels of wheat on the barn floor, and then wet it thoroughly with fermented chamber lye. Turn over the heap several times till every grain is wet. Then sprinkle over from a peck to half a bushel of slacked lime, and turn over the heap till every kernel is covered with lime. Sow as soon afterwards as possible. On one occasion, in sowing a thirteen acre field of wheat, we were short of seed prepared as above, to finish the field. Not wishing to sow unprepared wheat, and being out of chamber lye, we substituted for it a brine strong enough to float an egg. This was used in the same way as the chamber lye, and the wheat immediately dried with lime. About three-quarters of an acre was sown with this salted wheat. When the wheat came up, it was easy to see that this three-quarters of an acre was thinner than the rest of the field, and during the summer, and at harvest it was most manifest that the brine had injured the seed.

If the germinating principle of wheat is injured by simply wetting the seed with brine, may we not reasonably fear that when *soaked in strong brine over night*, it would be injured to a still greater extent, if not entirely destroyed?

CURING CORNSTALKS.—A correspondent of the *Maine Farmer* says his method of saving cornstalks is to cut and lay them on the hills, the butt ends highest, for this reason: if it rains no water will collect inside of the barrel part of the leaf, and should it be rainy for several days while the stalks are green, they will receive but little injury. He speaks from experience. When he binds them, which may be done the same day they are cut, if the weather is doubtful, he hauls them directly into the barn, pitches them on to the hay mow, and spreads them out as he used to spread flax. They may lay a foot thick or more, cutting the binders as he lays them down. They need no more care, and are as bright and fresh as can be wished.

NOTES FOR THE MONTH, BY S. W.

THE STATE AGRICULTURAL COLLEGE.—A tract of 670 acres has been selected for the State Agricultural College. It extends from the west line of that little poetic village, yet uncursed with corporate taxation, yeleft Ovid, to the landing at the bay on Seneca Lake, a distance of $2\frac{1}{2}$ miles. One of those ragged, tangled and wooded ravines, so common to little Seneca, runs through the whole length of the tract, debouching into the lake; it carries an old grist-mill in the spring rains, then subsiding to a brawling brook, and then sinking into its shady bed, leaving in sight the drab and olive stratified out-crop on either hand; during the summer solstice it affords many shaded nooks for picnics, or as a cosy retreat for hare-brained or romantic lovers. The tract is well drained and all arable from nature's hand, the soil calcareous, its timber stalwart oak, such trees as Illinois might sigh for, as she probably will a hundred years hence for its now stubborn yet enduring soil, when her now easy generous prairies have given up the ghost under the hard task-masters of an improvident generation!

The wise men of Ithaca and Aurora had set their hearts on having the College on the Cayuga shore, near that truly picturesque little harbor at Shelldrake Point. Here the Cayuga is narrow, and the views of land and water better defined and more tangible to the sense, than the broader expanse and dim outlines of the Seneca on the other side. But the Cayugans came in at the last hour; true they now subscribed thousands; but the more enterprising Ovidians had been up and doing, and they too subscribed even more liberally; then the land was offered at a price that its original proprietor, ELIJAH KINNE, would have scouted, even in his day of small things.

I am glad to see your constant subscriber and our neighbor, JOEL W. BACON, one of the acting trustees of this noble, unique enterprise. He is one of those diligent, efficient business men, whose economical management in details is proverbial: great and truly valuable qualifications in these times of—I will say official profligacy, at the risk of being set down as an old fogey, too slow by half for the requirements of the age.

SENECA COUNTY FAIR.—Our amateur farmer and master of occult distillation, JAS. WRIGHT, has been fitting up his twenty acre plateau for the County Fair grounds; he has tile-drained the whole field; made a circular race-course around it half a mile in extent: this too is underdrained, raised and graded, with a ditch on the inner side, and a framed railing to separate it from the Fair ground. Mr. W. will spare no expense, even to a wind-mill pump, to make this the best County Fair ground in the Empire State. And what is better, he has to exhibit thirty-nine full blooded horses, brood mares and equine matched trotters included, and twelve milch cows which, in this time of dry pasturage, give more milk than fifty farm cows in general. Then his fancy pigs, fowls, mammoth tobacco, corn, fruit, &c., &c., cannot be beat. Mr. W. says it is cruel bad economy to import fine animals from the evergreen pastures of England, to starve on ours in a summer's drought; hence he grows the stalks of sweet corn without stint, to help out short pasture, and well do his animals repay their keeping, with the interest.

THE GARDEN AND FRUIT.—Garden vegetables,

potatoes and turnips excepted, have grown and yielded their maximum this season. Such sweet corn and Lima beans, and so early, I have rarely seen. Tomatoes, so annoying from the great space they cover in a small garden, may be grown among early sweet corn without deterioration to either crop, as the corn is cut up before the tomatoes begin to ripen; they may be grown and ripened between rows of peas quite as early as in an open space, as tomatoes never make much vine until peas are ripe. In spite of the cold August, I have sweet corn with incipient ears, planted after early peas were off. In ordinary seasons, sweet corn fodder may be grown successfully on ground after the early crop of potatoes is removed from it, but turnips never; yet it may be proper to say that we have no frost here, even to singe a pumpkin vine, until October. Isabella grapes are nearly ripe; the younger vines yield well, while the older begin to yield for the first since the cutting frost of Feb. 7, 1855. Some good peaches are grown on the sandy lots at the west end of the village; and I hear of one large peach orchard, where foreign buyers are paying \$3.50 per barrel for the hanging fruit. Apples are a poor, wormy, short crop; many orchards are nearly bare. Pears and plums also are scarce.

THE CURCULIO.—Your correspondent, A. PINNEY, has well said that the thumb and finger is the most successful insect exterminator; it is at least significant of the fact that close attention and constant warfare, from the time your fruit is visible until it is near full size, will save much fruit. Large-mouthed mustard-bottles or vials, hung to the limbs after being partly filled with molasses and water, will entrap thousands of winged insects. The knife is now a certain remedy for the black knot of the plum tree; and both plums and peaches have been saved this season by frequently jarring the trees, and by dusting the young fruit with wood ashes when the dew is on. The dusting was continued for two or three weeks; but the peach, owing to its downy coat, may be injured by too much caustic ashes. Ashes is certain death to the slug on the under-side of the leaves of the cherry tree. Air-slacked lime answers the purpose only when fresh, as it soon becomes a mild carbonate in the open air.

CORN AND POTATOES.—Owing to continued dry weather, potatoes are a very short crop on our best soils and under the best culture. Not so with corn, as every manured and well-drained field now boasts of a large crop. This has proved a much better season for corn, in spite of the cool August, than the last wet season.—*Waterloo, Sept. 11, 1856.*

OATS—THICK OR THIN SEEDING.—A correspondent of the *Tennessee Farmer and Mechanic* says:

"With regard to the culture of oats, it has been my practice for several years to seed with *three bushels* to the acre. Some of my neighbors differ with me in this, and prefer a less quantity. My reason for adhering to it is this: The crop is almost invariably ten or fifteen bushels greater per acre than it was when I seeded with two or two and a half bushels to the acre."

We should be glad to have the experience of our readers on this point.

TO SOFTEN OLD, HARD PUTTY.—Put soap on the putty for a short time. Panes of glass may easily be removed by the application of soft soap for a few hours, however hard the putty has become.

—PLOWING, THE CROPS, &c.

MESSRS. EDITORS:—While passing westward a short distance, I noticed a plowman turning over a stubble field preparatory to sowing winter wheat, riding on his plow and very composedly viewing, while the horses went steadily along; the furrow was turned as well apparently, as though it had been held with the greatest care. Now, I do not approve of taking one's ease at the expense of hard-working animals, yet several things suggested themselves to my mind. I can remember the time when to hold a plow and keep it from running out either to or from the land, was reckoned an achievement of no mean skill. I can remember, too, often asking myself the question if it was necessary that it should be such hard work to hold the plow. It seems, such have been the improvements in their construction, that the friction is now so *equilibrated*, or balanced, that one great difficulty has been removed.

I was much struck with the difference apparent in the appearance of crops on the same soil, raised by different individuals. In one field could be seen corn growing evenly, with its dark green leaves, hardly a weed to be seen, while but a few rods beyond, another field would present itself, realizing Solomon's description of the field of the sluggard. In no one instance did I observe that the breaking up had been done to a depth exceeding six inches, and in most instances, four inches was the extreme depth of soil reached. Now is it not rather humiliating, Messrs. Editors, that after all the teaching of your truly practical paper, of line upon line, and precept upon precept, on the utility and absolute necessity of thorough disintegration and pulverization of the soil, and breaking it up to a sufficient depth to afford nourishment to plants, so many should be content to skim the surface, and exhaust the surface soil?

Corn, potatoes, and pasture lands have suffered much from drouth; and the recent rains, though helping the latter, will not have much effect upon the two former. A friend in Chautauque, who was obliged, in some instances, to plant his cornfield the third time, wished me to explain the reason why corn of the first planting should set and form a handsome well filled ear, while that of the later planting, seemingly equally as well developed in height of stalk and length of leaf, should not show any sign of an ear. (Can you explain it, Messrs. Editors?) Does it not seem to show, that in the growth of a plant there is a particular state of the atmosphere and climatic temperature necessary to the perfect development and growth of the seed bearing vessels, and that if from neglect, or other causes, the plant is not sufficiently advanced in growth to avail itself of this particular time and temperature, the forces which tend to the growth of seed, direct themselves to the leafy and ligneous portions of the plant?

I had the pleasure of calling on Mr. E. C. BLISS, an old patron of your paper, and who reduces to practice its precepts, if one may judge by the appearance of his farm, stock and premises. Winter wheat on his farm would average about fifteen bushels to the acre. On new land he could raise the full average crop of former years. Also, of potatoes, which have so generally fallen off in their product, a full crop, can be raised on new land. The inference he drew from these facts was that by our course of tillage we take from the soil in our annual crops, the

elements which constitute their fertility, and do not return.

Mr. B. has laid over 1000 rods of drain on his farm, which to many would seem almost unnecessary labor, but every drain pays for itself very quickly. The drains from his upper lots are brought to a well dug in the line of descent, and from thence by suitable pipes, made to furnish water at all times to the stock in the farm yard. How many others can profit by this, and by securing a perpetual supply of running water, relieve themselves from the drudgery of daily, for years together, driving their stock to a brook once or twice a day, or perhaps watering them by hand labor.

Mr. B. has both Devon and Durham stock, but gives the preference to the Devon. Some of his Devon calves are real beauties, as are also some of his grade stock. It is striking what an improvement there is in the first cross upon the native stock (so called,) by either the Devon or Durham blood; and when facilities are afforded for availing one's self of the services of blooded stock, we would urge every one of our readers to do so.

His son, Mr. H. BLISS, though "*college larnt*," sticks to the plow, and as Secretary of the Chautauque Agricultural Society, we predict that the Society will have one of the most interesting exhibitions of stock and agricultural machinery ever seen in Western New York.

Mr. BLISS has a Kentucky three year old jack, purchased at a very high price, which he keeps for the accommodation of those who would like to raise mules, which just now bring very remunerating prices. I had like to have forgotten the little porkers of the Suffolk breed, which seemed to my eye the *beauideal* of perfect swine. Mr. B. formerly used a cauldron kettle set in an arch of brick work, but now uses one of Mott's furnaces, which are much more convenient and economical. I might specify many other things which are worthy of note, among others the fine Sweet Bough apples tendered for discussion, but I will close by urging farmers and all who till the soil to visit each other. Mark well if there is any improvement on the old ways, and if so adopt it. If any practice has been found beneficial by yourself, publish it for the benefit of your brethren of the plow, and thus fulfil the law of doing unto others as you would be done by.

VIATOR.

SOW A FEW TURNIPS.—The severe drouth of the past summer having seriously affected our cabbage crops, I think it advisable to have a few turnips, which make an excellent substitute. And there may be others like, myself, who have no regular turnip patch; such would do well to pull those early beans, and cut that corn which was planted in the garden, and sow turnips on the same. They may be sown to advantage as late as the middle of August. If any of your readers are as fond of "pot victuals" as myself, they will not fail to have two or three bushels of turnips to put in the cellar, from those spots in the garden which have become vacant after being used for earlier vegetables for the table. D.—Gates.

AUSTRALIAN GRAIN.—At the South Australia Agricultural Exhibition in 1855, the prize cereal grains weighed as follows: wheat 64lbs. 14oz., 65lbs. 12oz., 64lbs. 15oz.; oats 44lbs. 2oz., 41lbs. 13oz.; barley 59lbs. 2oz., 54lbs. 14oz. per bushel.

SUGGESTED ITEMS.

ED. GENESSEE FARMER.—In turning over the successive numbers of the *Genessee Farmer*, I find many suggestive paragraphs, and I will not leave the Sept. issue without penning some of the thoughts called up—leaving you, of course, to judge of their destination and value.

BLOSSOMING POTATOES.—The present year I planted a small plat of Early June potatoes by the side of another plat of the Blue Mercer. The first were ripe in July, before the latter had set at all, though the tops were much larger and more thrifty. As you say, "the earliest varieties of potatoes do not produce flowers or seeds," and those varieties which do produce them, do it, I think, at the expense of the tubers. The Mercers were loaded with blossoms and seed balls, and still continue to produce them, though the first-grown have ripened and fallen to the ground. The potatoes are small and green, while kidney potatoes on the same ground, without blossoms, are large and well matured. I have never tried the experiment of removing the blossoms from the growing vines; I think it would be better to plant those producing few or no blossoms.

CANADA THISTLES.—Your correspondent "Agricola" gives a painfully truthful account of this pest of the farmer. They are not so easily got rid of, as some people imagine, and are very apt to break out again, when we think them well subdued. When I see a patch of Canada thistles, be it large or small, I think of the recipe once given me for their extermination: "Dig them up, chew the roots, and swallow the juice, and you will be sure to get rid of them."

WHEAT MIDGE ON CLOVER.—The wheat midge has been noticed in the clover heads in this vicinity the present season, and I remember observing the same insect in clover some years before it attacked the wheat so as to make itself noticed and known by farmers.

EARLY-PLANTED CORN.—I often hear it said in backward springs, that "seed corn is better in the crib than in the ground, until warm weather becomes a settled fact," but with "S. W.," I cannot believe it. This spring I planted a patch of corn the 10th of May, and the leaves were twice nipped by the frost, but the corn is twenty days ahead of that planted the last of May, on the same ground, and of the same variety. Other like instances assure me that it is best to plant corn as early as the ground can be got ready; and with good seed, gathered early and perfectly dried, cob and all, before winter, there is little risk of failure from rotting.

WHEAT AFTER BARLEY.—Why would not the rotation of an "experienced farmer," who raises good wheat after oats, answer with the substitution of barley? Manure well for corn; plow shallow next spring and sow to barley, and then plow deep in the fall (turning up the manure) and sow to wheat. We are trying wheat after barley, but did not plow shallow for that crop, and have applied about twenty cords of swamp muck per acre, before turning in the stubble.

MIXING SOILS.—The fine wheat noticed by Mr. JOHNSTON on the banks of his swamp ditches, has often been observed in like instances. I believe that some black-ash swales, with rather mucky surface soil, might be made to produce the largest crops of good wheat ever grown, by bringing up the sub-soil

from two or three feet in depth to the surface, covering it at least four inches deep. Of course it would need to be well drained, and other conditions favorable.

—Other items might be added, but at the risk of making this first communication a tedious one. If favorably received, I may follow it with another, though my pen is not started very easily. B.—*Royallton, Niagara Co., N. Y.*

POSTED IN CHEMISTRY.—The *Rural New-Yorker* of September 6th, says:

"All lands on which clover or the grasses are grown must either have lime in them naturally, or that mineral must be artificially supplied. It matters but little whether it be supplied in the form of stone lime, oyster lime, or marl."

We would ask if *any* crop can grow on soils that have no lime in them? Certainly such crops as wheat, barley, oats, Indian corn, buckwheat, millet, beans, peas, pumpkins, potatoes, parsnips, carrots, turnips, beets, mangel wurzel, onions, cabbage, cauliflower, lettuce, artichokes, radishes, ruta bagas, peppers and peppermint, cucumbers and kohlrabi, and every one of our commonly cultivated crops, together with all our fruit, shade and ornamental trees, cannot grow on a soil destitute of lime.

Again, the same paper of the same date, says:

"Periodical applications of ashes tend to keep up the fertility of soils, by supplying most, if not all, of the organic substances."

Now the fact is, that *ashes* contain no "organic substances" whatever, as the veriest tyro in agricultural chemistry knows. We do not blame our contemporary for its unaquaintance with agricultural science; but rather for its discussion of important subjects to which, either in theory or practice, it has given no attention. Better confine itself to charades and stories.

MILLET.—The *Germantown Telegraph* says:

"Millet requires for its successful cultivation, a soil replete with the fecundating remains of vegetable and animal organisms, and so constituted, chemically and mechanically, as to secure a due and equally graduated humidity."

How very precise! What nicely turned sentences! "Fecundating remains of vegetable and animal organisms!" "A due and equally graduated humidity!" But what does it all mean? This pretty, precise writer would have us believe that the "*successful cultivation*" of millet is impossible unless the soil be "replete"—completely filled—with the fecundating remains of vegetable and animal organisms. We might fill a pint bottle or a bushel basket, but how to fill and re-fill the soil, is beyond our skill. Again, are not all "remains of vegetable and animal organisms" "*fecundating*?" If the soil be *full* of vegetable organisms, must it also be *full* of animal organisms? How are we to tell when a soil is "so constituted, chemically and mechanically, as to secure a due and equally graduated humidity?" If we cannot determine this point, must we give up the cultivation of millet? We have an indistinct conception as to what is meant by "due humidity," but the "equally graduated" sticks us!

BAIT FOR RATS.—Mix a paste of corn meal with raw eggs, which is the best bait for a wire trap; they will all get in if there is room.



SCOTCH SHEEP DOG.

THE SHEPHERD'S DOG.

SOME writer remarks that when our first parents were expelled from Paradise, the dog, of all animals, was the only one that swerved not from his allegiance, but continued faithful to his master even in his disgrace.

"Faithful found amid the faithless,
Faithful only he, amongst innumerable false."

Be this as it may, the fidelity of the whole race of dogs, from the gigantic mastiff of the Alps, or the formidable boar-dog of Hungary, equalling a Shetland pony in height and bulk, and his jaws reeking with recent slaughter, down to the timid spaniel, or the little lap-dog just emerging from the shelter of his mistress' muff, is most remarkable, and seems to indicate that God formed the dog expressly for man's solace and assistance, to be to him a true and constant friend, faithful through troubles and difficulties, giving him as hearty a wag of recognition when the storms of adversity threaten, as during the balmy sunshine of prosperity.

Time was when the IRISH WOLF DOG was one of the farmer's most valued and most useful servants; but at the present day we must accord this honor to the Shepherd's Dog.

There are three different descriptions of sheep dogs, the French, English and Scotch. The latter, the renowned "Colley," is considered the most valuable, as he certainly is the most beautiful. He stands about twenty inches in height; is very gracefully formed; his muzzle is narrow and pointed; ears semi-erect; coat long, but fine and silky; tail and hams fringed with hair; color usually black and tan, or sandy yellow. No dog probably possesses more sagacity than the Colley; indeed, he appears to possess an intuitive perception of his duty, and to be equally aware, with his master, of what had best be done in cases of emergency. Many anecdotes illustrating this point will occur to the mind of the reader.

In the execution of his duties the shepherd's dog,

as may be supposed, does not weigh moral considerations. His purpose is to serve his master, whether right or wrong, though, when employed on guilty objects, he is probably not ignorant that his work is of a clandestine nature which it would not be faithful to disclose. Among the narratives which still entertain the fireside circle in Tweeddale, one of the most remarkable refers to an extraordinary case of sheep-stealing, in which a shepherd's dog was a subordinate though most active agent. The case occurred in the year 1772.

A young farmer in the neighborhood of Innerleithen, whose circumstances were supposed to be good, had been tempted to commit some extensive depredations upon the flocks of his neighbors, in which he was assisted by his shepherd. The pastoral farms of Tweeddale, which generally consist each of a certain range of hilly ground, had in those days no inclosures; their boundaries were indicated only by the natural features of the country. The sheep were, accordingly, liable to wander, and to become intermixed with each other; and at every reckoning of a flock, a certain allowance had to be made for this, as for other contingencies. For some time Mr. William Gibson, tenant in Newby, an extensive farm stretching from the neighborhood of Peebles to the borders of Selkirkshire, had remarked a surprising increase in the amount of his annual losses. He questioned his shepherds severely, taxed them with carelessness in picking up and bringing home the dead, and plainly intimated that he conceived some unfair dealing to be in progress. The men, finding themselves exposed to suspicions of a very painful kind, were as much chagrined as the worthy farmer himself, and kept their minds alive to every circumstance which might tend to afford any elucidation of the mystery. One day, while they were summering their lambs, the eye of a very acute old shepherd, named Hyslop, was caught by a black-faced ewe which they had formerly missed, (for the shepherds generally know every particular member of their flocks,) and which was now suckling

its own lamb as if it had never been absent. On inspecting it carefully, it was found to bear an additional *birn* upon its face. Every farmer, it must be mentioned, impresses with a hot iron a particular letter upon the faces of his sheep, as a means of distinguishing his own from those of his neighbors. Mr. Gibson's *birn* was the letter T, and this was found distinctly enough impressed upon the face of the ewe. But above this mark there was an O, which was known to be the mark of the tenant of Wormiston, the individual already mentioned. It was immediately suspected that this and the other missing sheep had been abstracted by that person; a suspicion which derived strength from the reports of the neighboring shepherds, by whom, it appeared, the black-faced ewe had been tracked for a considerable way in the direction leading from Wormiston to Newby. It was indeed ascertained that instinctive affection for her lamb had led this animal across the Tweed, and over the lofty heights between Calzie and Newby; a route of very considerable difficulty, and probably quite different from that by which she had been led away, but the *most direct* that could have been taken. Millar, the shepherd, and his master, were taken into custody, and conducted to the prison of Peebles. On a search of the farm, no fewer than thirty-three score of sheep belonging to various individuals were found, all bearing the condemnatory O above the original *birns*; and it was remarked that there was not a single ewe returned to Grieston, the farm on the opposite bank of the Tweed, which did not *minny* her lambs—that is, assume the character of a mother towards the offspring from which she had been separated.

The most surprising part of the tale is the extent to which it appears that the instinct of dumb animals had been instrumental both in the crime and in its detection. While the farmer seemed to have deputed the business chiefly to his shepherd, the shepherd seemed to have deputed it again, in many instances, to a dog of extraordinary sagacity, which served him in his customary and lawful business. This animal, which bore the name of *Yarrow*, would not only act under his immediate direction in cutting off a portion of a flock, and bringing it home to Wormiston, but is said to have been able to proceed solitarily, and by night, to a sheep-walk, and there detach certain individuals previously pointed out by its master, which it would drive home by secret ways, without allowing one to straggle. It is mentioned that while returning home with their stolen droves, they avoided, even in the night, the roads along the banks of the river, or those that descend to the valley through the adjoining glens. They chose rather to come along the ridge of mountains that separate the small river Leithen from the Tweed. But even here there was sometimes danger; for the shepherds occasionally visit their flocks even before day; and often when Millar had driven his prey from a distance, and while he was yet miles from home, and the weather gleam of the eastern hills began to be tinged with the brightening dawn, he has left them to the charge of his dog, and descended himself to the banks of the Leithen, off his way, that he might not be seen connected with their company. *Yarrow*, although between three and four miles from his master, would continue, with care and silence, to bring the sheep onward to Wormiston, where his master's appearance could be neither a matter of question or surprise.

The farmer and his servant were tried at Edinburgh in January 1773. The evidence was so complete, that both culprits were found guilty, and according to the barbarous policy of those times, they expiated their crime on the scaffold.

An instance of shrewd discrimination in the shepherd's dog, almost as remarkable as that of poor *Yarrow*, was mentioned a few years ago in a Greenock newspaper. In the course of last summer, it chanced that the sheep on the farm of a friend of ours were partially affected with that common disease, maggots in the skin, to cure which distemper it is sometimes necessary to cut off the wool over the part affected. For this purpose the shepherd set off to the hill one morning, accompanied by his faithful canine assistant, *Ladie*. Arrived among the flock, the shepherd pointed out a diseased animal, and making the accustomed signal for the dog to capture it, "poor *Mailie*" was speedily sprawled on her back, and gently held down by the dog till the arrival of her keeper, who proceeded to clip off a portion of her wool, and apply the healing balsam. During the operation, *Ladie* continued to gaze on the operator with close attention; and the sheep having been released, he was directed to capture two or three more of the flock, which underwent similar treatment. The sagacious animal had now become initiated into the mysteries of his master's vocation, for off he set, unbidden, through the flock, and picked out with unerring precision those sheep which were affected with maggots in their skin, and held them down until the arrival of his master, who was thus, by the extraordinary instinct of *Ladie*, saved a world of trouble, while the operation of clipping and smearing was also greatly facilitated.

Hundreds of such anecdotes, we believe, could be told of the shepherd's dog, but we shall content ourselves with the following, as an instance of sagacity and maternal tenderness in the animal: "In October, 1843, a shepherd had purchased at Falkirk, for his master in Perthshire, four score of sheep. Having occasion to stop a day in the town, and confident of the sagacity of his "collie," which was a female, he committed the drove to her care, with orders to drive them home, a distance of about seventeen miles. The poor animal, when a few miles on the road, dropped two whelps; but faithful to her charge, she drove the sheep on a mile or two farther; then allowing them to stop, returned for her pups, which she carried for about two miles in advance of the sheep. Leaving her pups, the collie again returned for the sheep, and drove them onwards for a few miles. This she continued to do, alternately carrying her own young ones and taking charge of the flock till she reached home."

A shepherd once, to prove the quickness of his dog, which was lying in the house where he was talking with a friend, said, in the middle of a sentence concerning something else, "I'm thinking, sir, the cow is in the potatoes." Though he purposely laid no stress on these words, and said them in a quiet, unconcerned tone of voice, the dog, who appeared to be asleep, immediately jumped up, and leaping through the open window, scrambled up to the turf roof of the house, from which he could see the potato field. He then, not seeing the cow there, ran and looked into the barn where she was, and finding that all was right came back to the house. After a short time the shepherd said the same words again,

and the dog repeated his look-out; but on the false alarm being a third time given, the dog got up and wagged his tail, looked his master in the face with so comical an expression of interrogation, that he could not help laughing aloud at him, on which with a slight growl he laid himself down in his warm corner with an offended air, as if determined not to be made a fool of again.

IMPROVED BREEDS OF CATTLE NECESSITATE IMPROVED SYSTEMS OF HUSBANDRY.

In an Essay on "Agriculture and its Advantages as a Pursuit," by Mr. HUTTON, of Belleville, C. W., to which the Johnstown District Agricultural Society awarded their Gold Medal, we find the following:

"It appears to me to be one of the greatest inconsistencies, and indeed absurdities, with which we farmers can be charged, that we have individually and collectively, as Societies—taken much pains and incurred much expense to *improve* our breed of cattle, without making a simultaneous movement to procure the succulent food, the increased shelter, the extra supply of clover hay, without which these so called improved breeds certainly can produce no improvement to the farmer. Without turnips or mangel wurtzel, or shelter, or hay, our old Canadian cows are infinitely superior to any of these fancy breeds; they produce more milk on poor feeding—they stand starvation much longer—they are better suited to our climate, and are in every way better—unless we change our system of feeding, and furnish warm and comfortable housing; if we were to furnish these for our native Canadian cows, it is doubtful whether they would not in the end pay the farmer better than either the pure Durhams, Devons, or Herefords. Of these three I think the Herefords are the best for us, and the Devons the next best; the Durhams are evidently and deservedly going out of favor. The Devons are best for dairy purposes. The Herefords are best for beef and working oxen, and are harder than either of the others, and have better hides, which is a matter of some consideration."

It is undoubtedly true, that to get the greatest profit from improved breeds of stock, it is essential that they be properly fed and cared for. The "old Canadian cows" unquestionably will "stand starvation longer" and better than either the Durhams, the Devons or the Herefords. So, too, the fox grape will stand "starvation" better than an Isabella or Catawba; the choke pear is harder than the Bartlett or the Easter Buerre; and the crab apple will bear neglect better than the Baldwin or the Northern Spy. Are they therefore "better suited to our climate," and shall we recommend their cultivation? On rough land, studded over with stumps and stones, the sickle and the scythe are "in every way better" than the best of Reapers and Mowers. Shall we, therefore, advocate the abandonment of the latter and the continued use of the former? Is it not one of the great advantages of the general introduction of all labor-saving implements, that they necessitate an improved system of tillage, and stimulate effort in the better preparation of the land? Is not the horticulturist benefitted by the intelligent care and thoughtful observation necessary to grow fine fruits; and is it not an argument in favor of improved breeds of stock, that the farmer is required to "procure succulent food, increased shelter, and an extra supply of clover hay"? It is the increased cultivation of roots and clover, that has enabled the British farmer to produce such immense crops of grain; and while we

can never engage in the cultivation of turnips as extensively as the English, yet we can easily raise all the mangel wurtzel necessary for the health of our cattle in winter, and in the production of clover our soil and climate are as good as those of the British Isles. In fact, we believe they are better. Here "clover sickness" is unknown, while in England it prevents the light land farmer from growing clover oftener than once in eight years.

Is it true that the "native Canadian cow," if as well fed and housed, would "pay the farmer better than either the pure Durhams, Devons or Herefords"? In the spring of 1850, a gentleman of this city, who had a high opinion of the milking properties of Canadian cows, purchased for us, in the neighborhood of Cobourg, nine "native Canadian cows," for about \$15 each. The poor things looked, when they got over here, as though they could not "stand starvation much longer," and though they had tolerably good pasture during the summer and fall, we believe we have had three Ayrshire cows that would give more milk than the whole of them. It is true that this case in our experience does not prove that the Canadian cows, *when properly fed and housed*, would not be more profitable than what Mr. HUTTON styles the "so called improved breeds," inasmuch as they had not, to appearance, been fed or housed at all; but it satisfied us that however hardy they might be—however long they could "stand starvation"—such cows did not yield the maximum amount of milk for the food consumed.

One more question—and we hope some of our numerous Canadian readers will take up this subject and give us an answer.—Is it true that "the Durhams are evidently and deservedly going out of favor"? We have attended the Provincial Fairs of Canada West for six years past, and were led to suppose, from the large number of excellent short-horn cattle exhibited, that this breed was very generally popular. Were we mistaken?

So far as our experience goes, we prefer the Ayrshire to either the Durham, Hereford or Devon, *for milking purposes*.

MORE STOCK FOR IOWA.—The *Boston Cultivator* says that Mr. JAMES J. SMART, who has lately removed from Cambridge to Davenport, Iowa, has purchased of Mr. E. CORNING, JR., of Albany, N. Y., a two-year-old Hereford bull and two yearling heifers of the same breed. He also takes out five breeding mares, some of which are understood to be of the Black Hawk blood, and a three-year-old colt of the Green Mountain stock, purchased of SILAS HALE, of Royalston. He also purchased of Mr. CORNING some Suffolk swine. We trust these animals will arrive safely, and be the means of improving the farm stock of the section of country for which they are destined.

SALT FOR HOGS.—Hogs, during the process of fattening, should be supplied with salt as often as once a week. It is no less advantageous to them than to the ox, the cow, or the sheep, and when liberally given, is a preventative of many diseases to which, from their continual confinement, and the effects of hearty food, they are inevitably exposed. Charcoal is also highly salutary in its influence upon the health of swine.

IMPROVING OUR NATIVE COWS.

THERE is a great difference in cows—in their looks, their worth and value; the milk they yield, their disposition, habits, &c. More than half we conclude are inferior animals. Now we believe this all wrong and easily remedied, and are going to tell how.

Superior cows, among the best natives in the State, have been produced in this wise. Little care was given in the selection of the male, but the female was good—was a superior cow, and possessed the power (all cows do not) of transmitting her good qualities to her offspring, especially if it be a female. From such a cow there is little difficulty in rearing the first quality of cows. We have now in mind four cows from which have been bred a score of cows, and all were equal in excellence to their dam. Care should be taken, however, to have no opposing points in the male, as to disposition, stature, &c. In breeding good milkers, we have very little need of imported males. In breeding good males, we should desire a perfect male, and as good a female as possible. A little thought, care and pride, would soon work a revolution in the manner of breeding cattle for the yoke, the shambles and the pail.

In proof of the above we would add that we can produce a race of cattle with large horns, if we desire it—in evidence see the cattle of Texas;—or we can produce long-legged, scrawny, mean brutes, hardly fit for beef when fattened. Many farmers do this, by selling their best calves to the butchers because they *will* fat,—keeping the balance because they *will not* fat. We hope to see greater pains taken in breeding our native cattle, and give it as our opinion that, by judicious selections, we have as much to hope from them as from the foreign race.

CONSERVATIVE.

Hornby, N. Y., Sept., 1856.

HOW TO CHOOSE A MILK COW.—*Editors Genesee Farmer:*—I am highly pleased with the book I purchased of you a short time since, entitled "How to choose a good milk cow," by J. H. MAGNE. I boast of as good cows as this vicinity affords, and have studied the rules given by the above writer, and have compared his description, or rather his rules, with the noted cows in this neighborhood, and find invariably that the writer had large experience in selecting and improving the dairy. You, at the same time loaned me the only copy you had of a small work on the same subject by GUENON, improved by JOHN NEFFLEN, which I consider a valuable assistant in collecting a dairy. As this is a subject in which every farmer is largely interested, I shall be glad if you will give room for this, as I have seen nothing in print giving notice that such books existed. In regard to this book, it not only teaches to select first rate cows, but teaches to select calves to raise for the dairy, as the marks denoting a good milk cow may be distinctly seen at six weeks of age.

I would with pleasure refer all such as wish good works to your list of books, as published in the *Genesee Farmer*, and their prices. I might enlarge on these two books, which should be studied together, but I wish every farmer to obtain the work for himself, and any man who is intending to purchase one cow, will find it for his interest to have a copy to guide him in his choice. D.

Gates, Monroe Co., N. Y.

A FARM HOMESTEAD AND OUT BUILDINGS.

WE have great pleasure in presenting to our readers the accompanying engravings and description of a Farm House and out buildings, designed by LEWIS F. ALLEN, Esq., of Black Rock, N. Y. We condense the following description from "Allen's Rural Architecture," an excellent practical work, published by C. M. SAXTON & Co., and which we have heretofore commended to every person intending to build either an house or farm buildings.

This is a plan of a house and out-buildings, based chiefly on one which the author built of wood some years since, on a farm of his own, and which, in its occupation, has proved to be one of exceeding convenience to the purposes intended. As a farm *business* house, he has not known it excelled; nor in the ease and facility of doing up the house-work within it, does he know a better. It has a subdued, quiet, unpretending look; yet will accommodate a family of a dozen workmen, besides the females engaged in the household work, with perfect convenience; or if occupied by a farmer with but his own family around him, ample room is afforded them for a most comfortable mode of life, and sufficient for the requirements of a farm of two hundred, to three or four hundred acres.

This house is, in the main body, 36x22 feet, one and a half stories high, with a projection on the rear 34x16 feet, for the kitchen and its offices; and a still further addition to that, of 26x18 feet, for wash-room. The main body of the house is 14 feet high to the plates; the lower rooms are 9 feet high; the roof has a pitch of 35° from a horizontal line, giving partially upright chambers in the main building, and roof lodging rooms in the rear. The rear, or kitchen part, is one story high, with 10 feet posts, and such pitch of roof (which last runs at right angles to the main body, and laps on to the main roof,) as will carry the peak up to the same air line. This addition should retreat 6 inches from the side of the main building, on the side given in the design, and 18 inches on the rear.

The rooms on this kitchen floor are eight feet high, leaving one foot above the upper floor, under the roof, as a chamber garret, or lumber-room, as may be required. Beyond this, in the rear, is the other extension spoken of, with posts nine feet high, for a buttery, closet, or dairy, or all three combined, and a wash-room; the floor of which is on a level with the last, and the roof running in the same direction, and of the same pitch. In front of this wash-room, where not covered by the wood-house, is an open porch, 8 feet wide and 10 feet long, the roof of which runs out at a less angle than the others—say 30 degrees from a horizontal line. Attached to this is the wood-house, running off by way of L, at right angles, 36x16 feet, of same height as the wash-room.

Adjoining the wood-house, on the same front line, is a building 50x20 feet, with 12 feet posts, occupied as a workshop, wagon-house, stable, and store-room, with a lean-to on the last of 15x10 feet, for a piggery. The several rooms in this building are 8 feet high, affording a good lumber-room over the work-shop, and hay storage over the wagon-house and stable. Over the wagon-house is a gable, with a blind window swinging on hinges, for receiving hay, thus relieving the long, uniform line of roof, and affording

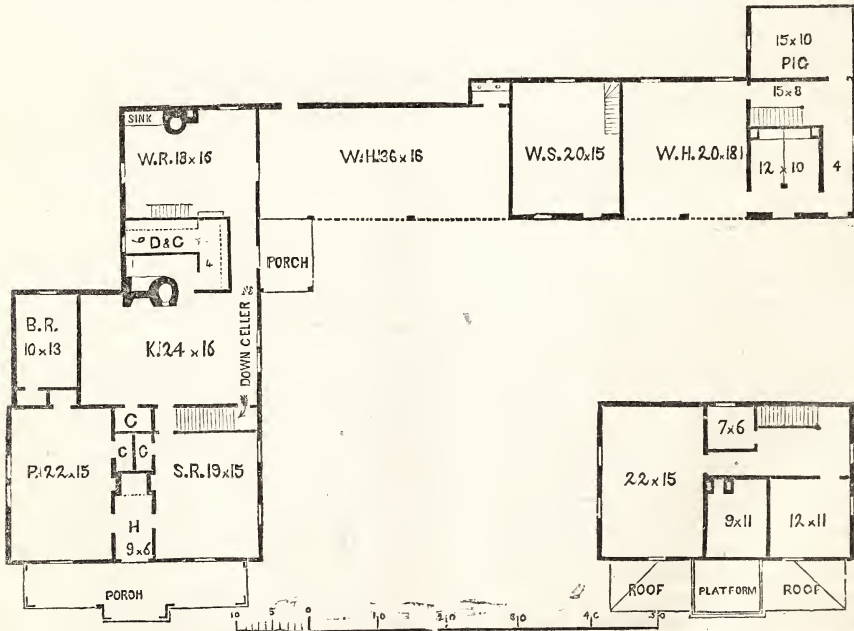


A FARM HOMESTEAD AND OUT-BUILDINGS.

ample accommodation on each side for a pigeon-house or dove-cote, if required.

The style of this establishment is of plain Italian, or bracketed, and may be equally applied to stone, brick, or wood. The roofs are broad, and protect the walls by their full projection over them, $2\frac{1}{2}$ feet. The small gable in the front roof of the main dwell-

house are hooded, or sheltered by a cheap roof, which gives them a snug and most comfortable appearance. The veranda may appear more ornamental than the plain character of the house requires; but any superfluous work upon it may be omitted, and the style of finish conformed to the other. The veranda roof is flatter than that of the house, but it may be made



GROUND PLAN.

ing relieves it of its otherwise straight uniformity, and affords a high door-window opening on to the deck of the veranda, which latter should be 8 or 10 feet in width. The shallow windows, also, over the wings of the veranda, give it a more cheerful expression. The lower end windows of this part of the

perfectly tight by closer shingling, and paint; while the deck or platform in the centre may be roofed with zinc, or tin, and a coat of sanded paint laid upon it. The front chimney is plain, yet in keeping with the general style of the house, and may be made of ordinary bricks. The two parts of the chimney, as

they appear in the front rooms, are drawn together as they pass through the chamber above, and become one at the roof. The kitchen chimneys pass up through the peaks of their respective roofs, and should be in like character with the other.

INTERIOR ARRANGEMENT.—The front door of this house opens into a small entry or hall, 9x6 feet, which is lighted by a low sash of glass over the front door. A door leads into a room on each side; and at the inner end of the hall is a recess between the two chimneys of the opposite rooms, in which may be placed a table or broad shelf to receive hats and coats. On the left is a parlor 22x15 feet, lighted on one side by a double window, and in front by a single plain one. The fireplace is centrally placed on one side of the room, in the middle of the house. On one side of the fireplace is a closet, three feet deep, with shelves, and another closet at the inner end of the room, near the kitchen door; or this closet may be dispensed with for the use of this parlor, and given up to enlarge the closet which is attached to the bedroom. Another door opens directly into the kitchen. This parlor is 9 feet high between joints. The sitting-room is opposite to the parlor, 19x15 feet, and lighted and closeted in nearly the same manner, as will be seen by referring to the floor plan.

The kitchen is the grand room of this house. It is 24x16 feet in area, having an ample fireplace, with its hooks and trammels, and a spacious oven by its side. It is lighted by a double window at one end, and a single window near the fireplace. At one end of this kitchen is a most comfortable and commodious family bedroom, 13x10 feet, with a large closet in one corner, and lighted by a window in the side. Two windows may be inserted if wanted. A passage leads by the side of the oven to a sink-room, or recess, behind the chimney, with shelves to dry dishes on, and lighted by the half of a double window, which accommodates with its other half the dairy, or closet adjoining. A door also opens from this recess into the closet and dairy, furnished with broad shelves; that part of which, next the kitchen, is used for dishes, cold meat and bread cupboards, &c.; while the part of it adjoining the window beyond, is used for milk. This room is 14x6 feet, besides the L running up next to the kitchen, of 6x4 feet. From the kitchen also opens a closet into the front part of the house, for any purpose needed. This adjoins the parlor and sitting-room closets. In the passage to the sitting-room also opens the stairway leading to the chambers, and beneath, at the other end of it, next the outside wall, is a flight leading down cellar. The cellar is excavated under the whole house, being 36x22, and 34x16 feet, with glass windows, one light deep by four wide, of 8x10 glass; and an outer door, and flight of steps outside, under either the sitting-room or kitchen windows, as may be most convenient. A door opens, also, from the kitchen, into a passage 4 feet wide and 12 feet long, leading to the wash-room, 18-16 feet, and by an outside door, through this passage to the porch. In this passage may be a small window to give it light.

In the wash-room are two windows. A chimney at the far end accommodates a boiler, or two, and a fireplace, if required. A sink stands adjoining the chimney. A flight of stairs, leading to a garret overhead on one side, and to the kitchen chamber on the other, stands next the dairy, into which last a door also leads. In this wash-room may be located the cooking stove in warm weather, leaving the main kitchen for a family and eating room. A door also leads from the wash-room into the wood-house.

The wood-house stands lower than the floor of the wash-room, from which it falls by steps. This is large,

because a plentiful store of wood is needed for a dwelling of this character. If the room be not all wanted for such purpose, a part of it may be devoted to other necessary uses, there seldom being too much shelter of this kind on a farm; through the rear wall of this wood-house leads a door into the garden, or clothes-yard, as the case may be; and at its extreme angle is a water closet, 6x4 feet, by way of leanto, with a hipped roof, 8 feet high, running off from both the wood-house and work-shop. This water-closet is lighted by a sliding sash window.

On to the wood-house, in a continuous front line, joins the work-shop, an indispensable appendage to farm convenience. This has a flight of stairs leading to the lumber-room above. Next to the work-shop is the wagon and tool-house, above which is the hay loft, also spread over the table adjoining; in which last are stalls for a pair of horses, which may be required for uses other than the main labors of the farm—to run to market, carry the family to church, or elsewhere. A pair of horses for such purposes should always be kept near the house. The horse-stalls occupy a space of 10x12 feet, with racks and feeding boxes. The door leading out from these stalls is 5 feet wide, and faces the partition, so that each horse may be led out or in at an easy angle from them. Beyond the stalls is a passage 4 feet wide, leading to a store-room or area, from which a flight of rough stairs leads to the hay loft above. Beyond this room, in which is the oat bin for the horses, is a small piggery, for the convenience of a pig or two, which are always required to consume the daily wash and offal of the house; and not for the general *pork* stock of the farm; which, on one of this size, may be expected to require more commodious quarters.

The chamber plan of this house is commodious, furnishing one large room and three smaller ones. The small chamber leading to the deck over the porch, may, or may not be occupied as a sleeping room. The small one near the stairs may contain a single bed, or be occupied as a large clothes-closet. Through this, a door leads into the kitchen chamber, which may serve as one, or more laborers' bed chambers. They may be lighted by one or more windows in the rear gable.

If more convenient to the family, the parlor and sitting-room, already described, may change their occupation, and one substituted for the other.

The main business approach to this house should be by a lane, or farm road opening on the side next the stable and wagon-house. The yard, in front of these last named buildings, should be separated from the lawn, or front door-yard of the dwelling. The establishment should stand some distance back from the traveled highway, and be decorated with such trees, shrubbery, and cultivation, as the taste of the owner may direct. No general rules or directions can be applicable to this design beyond what have already been given; and the subject must be treated as circumstances may suggest. The unfrequented side of the house should, however, be flanked with a garden, either ornamental, or fruit and vegetable; as buildings of this character ought to command a corresponding share of attention with the grounds by which they are surrounded.

This house will appear equally well, built of wood, brick, or stone. Its cost, according to materials, or finish, may be \$1,000 or \$1,500. The out-buildings attached, will add \$400 to \$600, with the same conditions as to finish; but the whole may be substantially and well built of either stone, brick, or wood, where each may be had at equal convenience, for \$2,000, in the interior of New York. Of course, it is intended to do all the work plain, and in character for the occupation to which it is intended.



Horticultural Department.

AMERICAN POMOLOGICAL SOCIETY.

THE Sixth Biennial Meeting of the American Pomological Society was held in this city, Sept. 24—26. Nearly all portions of our extended country, from Maine to California, were represented, (there being delegates from *nineteen States*.) and we heard it repeatedly remarked that a more respectable and intellectual body of men had never met in Rochester.

The Genesee Valley Horticultural Society held their annual exhibition in connection with the American Pomological Society and the Western New York Fruit Growers' Association, and the show of fruits and flowers excelled anything we have ever before witnessed. Had it not been for the partial failure of the apple crop in the west, the display would have been truly gorgeous; but what was lacking in apples and peaches was made up in pears. The extent to which pear culture is attracting the attention of fruit growers in all parts of the Union, was fairly indicated by the large number and excellence of the varieties shown. Our space will not allow us to particularize further than to say that the veteran pomologist and President of the Society, MARSHALL P. WILDER, who has in his grounds at Dorchester, Mass., over *one thousand different varieties of pears*, exhibited one hundred of his best new sorts; and that the Messrs. Hovey & Co., of Boston, exhibited 250 varieties. From this city the show of pears was very large, and in size, color, and smoothness of skin, unsurpassed. Messrs. ELLWANGER & BARRY, HOOKER & Co., FROST & Co., and other leading nurserymen of Rochester, exhibited largely, as did also one or two amateurs. JOHN HAMPTON, gardener to SELAH MATTHEWS, Esq., showed thirteen varieties of pears—among them a well shaped Bartlett, weighing twelve ounces—and a fine collection of green-house plants, roses, verbenas, grapes, &c. J. SALTER, gardener to J. F. BUSH, Esq., exhibited eight varieties of exotic grapes. Mr. MESSEUR, of Geneva, N. Y., also showed several varieties of splendid exotic grapes—among them some enormous bunches of Muscat of Alexandria. A dish of pears, of the Louise Bonne de Jersey and Duchesse d'Angouleme varieties, sent by President PIERCE, from the "People's Garden" at Washington, D. C., showed the difference of the season here and at the South. They were fully ripe, while specimens of the same varieties grown here were quite green and hard. Dr. GRANT, of Newburgh, N. Y., had a fine collection of native grapes, among them the Delaware—perhaps the earliest and best flavored native variety in cultivation, but lacking size—and a new seedling white

grape, called Rebecca, which promises to be an acquisition. There were two fine collections of apples from Iowa, and one from North Carolina, containing many varieties of Southern apples, but little known at the North.

The American Pomological Convention were welcomed to the city by the Mayor of Rochester, and after some preliminary business, the President of the Society, Hon. MARSHALL P. WILDER, delivered a most eloquent and interesting address, from which we make the following extracts:

"Amidst the rapid strides of the arts and sciences in our time, it is gratifying to know that Pomology has not been stationary. Few subjects exhibit so remarkably the progress of civilization and improvement as the cultivation of fruit. It is now only about a quarter of a century since the establishment of the oldest horticultural society in America. Then, these associations were few and feeble; now they are numerous and influential, extending from the British Provinces to the Gulf of Mexico, and from ocean to ocean,—all working together in harmony with each other, and aiding our association, whose field is our national domain. Then the fruit crop of the country was not deemed worthy of a place in our national statistics; now it exceeds thirty millions of dollars annually, and is rapidly becoming one of the most valuable and indispensable products of our Republic. Then the sales of fruit trees were numbered by hundreds, now by hundreds of thousands. Then choice fruit was a luxury to be found only in the palace of the opulent; now it helps to furnish the table of the humble cottager, and comparatively few are the hamlets which are without their fruit tree or grape vine." * * *

"This progress should cheer us onward. No other country, in extent and variety of soil and climate, is so well adapted, or offers so great advantages to the pomologist. * * * One of my neighbors who went to California in 1854, and now residing in Napa city, writes: 'Such is the rapid growth of vegetation in that district, that apple trees, from seed planted in the spring of 1853, and budded the same year, yielded fruit in the autumn of 1855.' He says, 'I wish you could take a look at our peach orchard, loaded with three to four thousand baskets of fruit. You could hardly believe that the trees had made all their growth, and were most of them raised from seed, since I came to California, February 1, 1854. The crop from this orchard is now (July 18, 1856,) going to market, and we expect will amount to between ten and twenty thousand dollars.' The proprietor of that crop has called on me within a few days, confirms these statements, and reports that the crop and prices fully realized all anticipations." * * *

"A false doctrine prevails among some, although founded on the theory of Van Mons, 'that scions taken from seedlings, and grafted into stocks, however strong and healthy, will not yield fruit earlier than it may be obtained from the mother plant.' Adopting this theory as true, many cultivators have been discouraged on account of the length of the process. Whatever may have been the experience which called forth this theory from its learned author, in the localities where it originated, or where it has been advocated, my reading and personal experience constrain me to question its truthfulness; certainly its application to our own country. For instance, the fact is familiar to you all, that scions of the pear come into bearing, when grafted on the quince, earlier than on the pear stock. This is believed to result from the early maturity of the quince, which, while it does not change the variety of the pear, imparts its own precocity thereto. We realize corresponding hastening to maturity when the scion is

grafted into a pear tree which has also arrived at maturity; especially is this to be expected when the stock is in itself one of a precocious character. If any facts seem to oppose this doctrine, they may be regarded either as exceptions to the general law, or as the results of locality and cultivation.

"The physiological principle of the vegetable kingdom under which this doctrine obtains is, that the bud contains the embryo tree, and that the strong or precocious stock constrains it to elaborate more material into wood and foliage, and thus promotes both growth and fruitfulness.

"Common sense, as well as common observation, confirm this statement. Witness the pear, which we have known to fruit the fourth year from seed, when grafted on the quince. We know a seedling from the Seckel pear, grafted on the Bartlett, which bore the present season, and is only four years from the seed. The Catharine Gardette, raised by Dr. Brinckle, was brought into bearing by grafting on the quince in five years, while the original seedlings, in all these instances, are only three to five feet in height, and will require several additional years to bring them into bearing." * * * *

"In respect to the best method of obtaining choice varieties from seed, I urged you at our last meeting 'to plant the most mature and perfect seed of the most hardy and vigorous sorts.' Additional experience has confirmed my faith in this doctrine: for, where seeds have been obtained from cross fertilization of healthy and strong growers, the progeny has partaken of the same character; but where the parents have been of slender habit, or slow growth, the offspring have exhibited corresponding qualities." * * *

"The importance of thorough draining, and perfect preparation of the soil, have not received the consideration they deserve; especially where its silicious character does not furnish a ready natural conductor to superfluous moisture. Thorough draining lies at the foundation of all successful cultivation. In cold, wet, undrained grounds, the disease of trees commences at the root, which absorbs injurious substances, and the tree ceases properly to elaborate its nutritious matter. Wherever there is an excess of water, and consequently too low a temperature, and the soil is not properly drained and thoroughly worked, the vital energies of the plant are soon impaired, and its functions deranged." * * *

"The affinity of the stock to the graft is of immense importance to the happy union and success of both. We have seen trees made sick by the insertion of an uncongenial scion, and finally destroyed." * * *

"Pears upon the quince should be planted in a luxuriant deep soil, and be abundantly supplied with nutriment and good cultivation. They should always be planted deep enough to cover the place where they were grafted, so that the point of junction may be three or four inches below the surface. The pear will then frequently form roots independently of the quince, and thus we combine in the tree, both early fruiting from the quince, and the strength and longevity of the pear stock. For instance, of trees of the same variety, standing side by side in my own grounds for ten years, and enjoying the same treatment, those on the quince stock have attained a larger size, and have borne for seven years abundant crops, while those upon the pear stock have scarcely yielded a fruit. We have, also, others on the quince, planted twenty-five years since, and which have borne good crops for more than twenty years, and are still productive and healthy.

"That the introduction and cultivation of the pear upon the quince has been a great blessing, I entertain no doubt, especially in gardens, and in the suburbs of

large towns and cities. And as to its adaptation to the orchard, I see no reason why it should not succeed well, if the soil, selection and cultivation be appropriate."

After the conclusion of the address, the convention proceeded to business. The nominating committee reported the following list of officers, which were unanimously elected:

PRESIDENT,

HON. MARSHALL P. WILDER, of BOSTON.

VICE PRESIDENTS,

S. L. Goodale, Maine.	D. W. Yaudell, Tenn.
H. J. French, N. H.	Lawrence Young, Ky.
Fred. Helbrook, Vt.	A. H. Ernst, Ohio.
Samuel Walker, Mass.	H. L. Ellsworth, Indiana.
Stephen H. Smith, R. I.	C. R. Overman, Illinois.
A. S. Monson, Conn.	Thomas Allen, Miss.
Charles Downing, N. Y.	Rev. C. H. Byington, Ark.
William Reid, N. J.	B. F. Nourse, Fla.
Hartman Kuhn, Jr., Pa.	Robert Avery, Iowa.
William C. Wilson, Md.	J. C. Brayton, Wisconsin.
Er. Tatnall, Jr., Del.	Simpton Thompson, Cal.
Yardley Taylor, Va.	Joshua Pierce, D. C.
Joshua Lindley, N. C.	Edward Hunter, Utah.
A. G. Sumner, S. C.	Hugh Allen, Canada East.
Richard Peters, Ga.	James Dougal, C. W.
C. A. Peabody, Ala.	Amasa Stewart, Minnesota.
Thomas Affleck, Miss.	C. B. Lines, Kansas.

Henderson Jewellin, Oregon,

SECRETARY,

P. BARRY, of New York.

TREASURER,

P. JAMES, of Pennsylvania.

The President, on thanking the Society for the honor conferred upon him, stated that he had fully determined not to accept the office, but could not find it in his heart to decline the trust imposed upon him by the unanimous voice of his friends.

After the reports from the State fruit committee, and from the committee on the Downing monument, the Society proceeded to revise the catalogue of fruits.

Of the list of pears for general cultivation, the following varieties were proposed for rejection, but retained after discussion: Ananas d'Ete, Andrews, Beurre d'Arenberg, (decided that it should have "high cultivation" attached to it on the list,) and Fulton. The list previously recommended for trial as promising well was then taken up, and the following varieties were transferred to the list for general cultivation: Doyenne Boussoch, Beurre St. Nicholas, Howell, and Sheldon. Duchess de Berry, at the suggestion of Mr. WALKER, had "d'Ete" added to its name, to denote its early ripening.

The following varieties were recommended as "promising well." Vicar of Winkfield, Hosen-schen, Philadelphia, Fondante Comice, Niles, Emile d'Heyst, Beurre Kermes, Conseiller de la Cour, Comtesse del Aost, Beurre de Langelier, Doyenne d'Alencon, Beurre d'Albret, Delicis d'Hardenpont de Belgraque, Delicis d'Hardenpont d'Angers, Fondante de Charneuse, Osband's Summer, Beurre Nantais, Dix. The Bellissime d'Ete was decided to be unworthy of cultivation. Bleekers's Meadow and Passans du Portugal were removed from the "rejected list."

The convention then proceeded to revise the list of pears recommended for culture on the quince stock. It was proposed to reject Belle Lucrative and Long Green of Cox, but after discussion it was decided to let them remain on the list. Beurre d'Arenberg and Triomphe de Jodoigne were stricken from the list.

Mr. FIELD called attention to a series of articles published lately in the *Horticulturist*, condemning the culture of pears on the quince stock. He thought people were likely to be misled by them, and wished the facts to be known. He had examined the pear trees in the grounds of the author of those articles, and found that he knew little about their cultivation. The point of union between the quince and pear was three inches above ground, and although they were receiving care now, it was evident that until latterly they had not been pruned or cared for in any way.

Mr. HOVEY thought we were giving too much importance to this matter. It would not influence the action of a dozen sensible men.

Mr. HODGE thought there was some prejudice in the public mind against dwarf pears. He thought it was caused by nurserymen having sent out varieties like the Bartlett, that will not succeed well on the quince. Nurserymen should confine themselves for the present to twelve, or fifteen varieties that are known to be fine growers on the quince.

Mr. PHOENIX thought too little attention had been paid to pruning, and this was the great cause of the difficulty.

Mr. BARRY wished the fact to be generally known, that a regular annual pruning is necessary to the success of the pear on the quince.

The PRESIDENT said twenty years experience and observation had convinced him that many varieties succeeded as well and were as durable on the quince root as on the pear. Has seen trees from 20 to 25 years old, healthy and fine; and Mr. BERGMANS, now present, has seen them in Europe over 100 years of age, in health and vigor. It is probable, however, that in these cases roots were thrown out above the graft.

¶ After an interesting discussion of several varieties of apples on the list for general cultivation—all of which were retained—the convention took up the list of apples which "promise well." The following varieties were removed from the list that "promise well" to the list for "general cultivation": Benoni, Hawley, Primate, and Rambo. The Ladies' Winter Sweet was decided to be a misnomer for Ladies' Sweet, by an error on the part of the reporter, and was expunged from the list.

An interesting discussion took place on the Tompkins County King. Mr. MATTISON, of New York, stated that it had been in cultivation for fifty years, and was a general favorite wherever known. It usually sold at double the price that could be obtained for any other variety. It generally bore every year, and had the peculiarity of making a fine growth while bearing a heavy crop. The fruit should be gathered early, when it would sometimes keep till July. Mr. SYLVESTER, of Lyons, N. Y., regarded it as an excellent fruit, but it was not so fine-grained as some other varieties. There were several spurious sorts. He had known the Ribston Pippin sold for it. Mr. BATEHAM, of Ohio, had found it to ripen in December, and it proved of second-rate quality. H. E. HOOKER considered it first-rate, but not "best," and would like to see it further tested. J. J. THOMAS remarked that his father had told him that after removing the skin from this apple, he could scarcely distinguish it from the Swaar. Mr. SAUL had heard the same remark made. E. C. FROST remarked that the Newark King was a totally distinct variety, ripening in the fall. It was decided to place it on the

list that promise well, under the name of King of Tompkins County. The Wagener, at the suggestion of E. C. FROST, was also added to the list of fruits that promise well.

The discussion on Grapes was quite animated, and at one time there was some danger of a warm discussion of the Temperance Question, had not the President wisely ruled all such remarks out of order.

The Delaware grape was highly recommended by some gentlemen. Mr. PRINCE was of opinion that it would prove to be the most delicious native grape, except perhaps the Scuppernon of the South. Dr. GRANT had grown it for three years, and found it perfectly hardy. Mr. DOWNING considered it one of the finest native grapes, and said that it was very hardy with him. Dr. BRINCKLE saw it first in 1850, and thought it finer than any native grape that he knew, but had doubts of its being a native; Mr. LONGWORTH said it was not. Mr. ERNST stated that Mr. LONGWORTH had been mistaken in regard to this grape, and was now satisfied of its American origin. Mr. HOVEY esteemed it an excellent fruit, and wished it placed upon the list of varieties that promise well. Dr. GRANT remarked that it was first discovered in New Jersey, and was introduced into Ohio 25 or 30 years since. It was recommended as promising well.

The Rebecca grape, Mr. PRINCE had no doubt was a variety of the Chasselas family, and thought that no such grape could be perfectly hardy. Mr. REID said that it showed no indication of an origin from the Chasselas, except some resemblance in the foliage. Dr. GRANT stated that it had been exposed at Hudson for the past three years, remaining on an open trellis during the winter, and had not suffered in the least, while many other things which were usually hardy had been destroyed. Mr. DOWNING had seen it for three years past, and considered it perfectly hardy, though not a very strong grower. Mr. REID said that it was the only white native variety within his knowledge, and thought it desirable, if only for that reason. Mr. PRINCE knew of another white variety, in Pennsylvania. It was recommended as promising well.

The PRESIDENT wished to direct attention to several seedlings lately originated at Philadelphia, and called on Dr. BRINCKLE for information in regard to them, who made some remarks upon five sorts, viz.: The Emily, Clara, Brinckle, Graham, and Raabe. Dr. B. stated that the Raabe was raised from seed of the Catawba, the others from seeds of foreign sorts, and that the Clara and Brinckle were, in particular, very fine. Mr. BUIST observed that the Graham and Raabe were evidently natives, but that the others were purely foreign in their characteristics. Dr. BRINCKLE was of opinion that all grapes originating in this country should be considered natives, whether raised from native or foreign seed. Mr. REID considered grapes from foreign seed more liable to the attacks of mildew, than those of native origin. Mr. HOVEY thought that seedlings from foreign grapes would not prove hardy, without some "native blood." Dr. Brinckle stated that neither of these varieties had ever been protected, nor had suffered in the least from the effects of winter; but that of many other seedlings originated at the same time, the rest had all been destroyed. The PRESIDENT thought that the Emily must have some infusion of "native blood," as he had found it perfectly hardy.

The Union Village grape, Dr. BRINCKLE had heard

from Mr. LONGWORTH, was as large as the Black Hamburg, and quite hardy, but that there had been a mistake made in the cuttings which had been sent him, and he had had no fruit. Mr. GRANT observed that it was a monstrous grower, the bunches quite large, the flavor sweet, and as good as the Isabella. Mr. ERNST remarked that it was probably an accidental seedling, and he had seen it exhibited before the Cincinnati Horticultural Society, when it was so fine as to be by many persons mistaken for the Black Hamburg. He had not had much experience with it, but considered it a fine table grape. It was vigorous, and a little earlier than the Catawba, but he thought probably not well adapted for making wine. Mr. GRANT said it was a little earlier than the Isabella. The PRESIDENT had seen specimens which were exhibited at Boston, and considered it very promising. Mr. CABOT thought it earlier than the Isabella, but not so early as the Delaware. He had eaten it from a vine under glass, and considered the flavor very fine. The cane was very stout.

Of the Hartford Prolific Mr. HOVEY entertained a favorable opinion. Mr. DOWNING was much pleased with it the first year, but he had since come to the conclusion that it was not so good as the Isabella. It was, however, ten days earlier than that sort, and not much different in quality from the Concord. Mr. PRINCE condemned it in strong terms as miserably foxy, and considered the Concord infinitely superior to it. Mr. REID considered it utterly unworthy of cultivation, except in a cold climate, where the Isabella and others could not be ripened. He thought the Concord much superior to it. Mr. BARRY concurred; he thought it entirely unfit for the table, except in cases of absolute necessity. Mr. HOVEY had never esteemed it as anything remarkable, but was disposed to think it valuable for cold localities, where better sorts could not be grown. Mr. GRANT thought its earliness its chief merit; he had found it to ripen a week earlier than the Concord. Mr. H. E. HOOKER considered it more foxy than the Concord, but quite as good.

The Northern Muscadine Mr. PRINCE considered as belonging to the same class as the variety last discussed. Mr. BUIST observed that it had been brought before a committee of which he was a member, and that it was greatly against his will that he remained in the room with it. The PRESIDENT made some humorous remarks on the disposition shown by some persons to esteem their own productions too highly, and to recommend them so frequently to others, as to become at length themselves convinced that they really were what they had represented them. Mr. THOMAS had been much surprised at the pertinacity of the Shakers in recommending this grape so highly. It was, as he had frequently told them, no other than the common *brown fox*.

The Concord, Mr. DOWNING had found a little larger and ten days earlier than the Isabella. Mr. C. E. FROST had fruited it for the first time, this year, and it had ripened six days before the Isabella. Mr. REID had also fruited it but once; he considered it very hardy, a free grower, nearly as good as the Isabella, and a week earlier. Mr. H. E. HOOKER said that it had ripened with him at the same time as the Isabella, and was nearly as good.

Mr. PRINCE remarked at some length upon the natural adaptability of this country to the culture of the grape,—that it was exemplified by the fact that

there were seven or eight indigenous species, and one only in the whole of Europe, and that he had been at a large expenditure of time and money in order to acclimate the foreign grape, but that he had never succeeded in a single instance,—concluding by expressing his opinion that we must rely chiefly upon our native sorts, and that America was by nature destined to become more renowned for grape and wine culture than any other country in the world—that it was the “natural home of the grape, and the land of the vine!” The PRESIDENT was glad to hear the remarks made by Mr. PRINCE, and concurred with him fully. He had no doubt of the future importance of wine culture to this country, and was aware of Catawba brandy having been already purchased at \$5 per gallon, for exportation to France, for the purpose of flavoring foreign liquor.

Mr. ERNST made some remarks upon the injury which grapes had received from the extreme cold of the past winter; when Mr. HANFORD, of Indiana, observed that in his vicinity grapes had sustained a temperature of 31° below zero, without injury.

The discussions on strawberries, raspberries, and blackberries, which were exceedingly interesting, we must defer till next month.

It was decided to hold the next meeting of the Association at New York, in the fall of 1858.

How to BLOOM CAMELLIAS.—When the growth is nearly made—that is, when the leaves have expanded in the young shoots, water should be withheld, so as to allow the plants to flag but not to shrivel. This should be repeated thrice. At the first flagging water them copiously, filling the pot three or four times after the water has sunk; only water them this once, and let them flag as before. Care is required not to allow them to flag too long, or the leaves will be injured. This sudden check at that period, I have always found, will cause the plants to form buds; but unless they are in health, this process to set them for flower will be useless, as it would weaken them still more. I have been enabled, by these means, to cause camellias to bloom that have not flowered for three or four years. —*Gardener's Chronicle*.

CULTIVATION OF FLOWERS.—There are few better tests of a happy home within, than the flower decorated window and neatly kept garden; and there is no occupation for the leisure hours more calculated to keep it so, or to soothe the mind. It yields pleasure without surfeit; the more we advance, the more eager we become. And how unlike is this to most of our worldly engagements? To those blessed with children, how delightful it is to bend their young minds to a pursuit so full of utility and intellectual instruction, combined with the advantages usually accompanying industry; and in children, carefulness and thought about their plants will lead to the same feelings respecting other matters.

THE APPLE CROP, &c.—In driving through Brighton and Pittsford to Mendon, and returning by way of Henrietta, I noticed that the apple orchards have but little fruit, and that not of a superior quality. I think we may put apples down as a short crop. Corn looks very promising. I saw some pieces already cut up and standing in rows neatly shocked, leaving the ground spotted with the rich golden “pumpkins.” A short crop of potatoes is anticipated by all whom I heard speak on the subject, and that was not a few. D.—*Gates, Sept. 13, '56.*

THE CULTIVATION OF ASPARAGUS.

THE asparaginous class of esculents, (LUDON says,) may be considered as comparatively one of luxury. It occupies a large proportion of the gentleman's garden, often an eighth part, but enters but sparingly into that of the cottager. A moist atmosphere is congenial to the chief of them, especially to asparagus and sea-kale, which are sea-shore plants, and are brought to greater perfection in the British Isles than anywhere else, except perhaps in Holland. In the neighborhood of London it is cultivated to a greater extent than in any other place in the world; chiefly at Deptford and Mortlake. Some growers at these places, and especially Mortlake, have above one hundred acres each.

Asparagus officinalis is the common kind. There is, properly speaking, but one cultivated variety, although we frequently see other names given, as Giant, &c., which is said to be larger than the common kind; but its increased size is owing, I believe, entirely to cultivation. I cannot see why asparagus should be a vegetable of luxury; it is one of the most wholesome, and ought to be one of necessity. It has other good qualities to recommend it. It is so easily cultivated, and when once established it requires only to be kept clear of weeds; though no plant is more susceptible of good treatment. It is also one of the earliest and most delicious of spring esculents, and lasting in season from the first of May to the middle of June, after which time none ought to be cut. In Paris it is much resorted to by the sedentary operative classes, when they are troubled with symptoms of gravel or stone. It is needless to say that the young, green stalk, when about six inches high, is in the best condition to be cut.

TO MAKE THE BED.—Choose a deep, light, sandy, loamy soil, in the most sunny situation of the garden, yet sheltered from cold north-east winds, if possible, and in a place where it can remain, for if well done it will last good fifteen or twenty years. It must not be shaded by any large trees. When the spot of ground is fixed on, draw on good rotten stable manure, at least six inches to one foot thick, for remember this is the only opportunity you will ever have to manure the bottom part of the bed. When the manure is spread, begin at one end by digging out the soil the whole width of the bed, and for four feet in length, and at least two feet or two feet six inches deep; when this is done, continue the operation by digging down the soil and manure to the same depth, turning and mixing them into the space from which the first was thrown, and so on the whole length of the bed. When you have worked through to the other end of the bed, there will necessarily be a hole left; wheel in the earth which was thrown out first at the opposite end, and that will fill it up. When this has lain a fortnight, if there be time, turn it all again, well mixing it as before; when this has lain a week or ten days, it will be ready to plant. Rake the surface of the bed smooth and even, then stretch a line across the bed six inches from the edge; then with a spade cut out a trench six inches deep and nine inches wide; then lay in the plants nine inches apart, spreading out the roots horizontally the whole length of the trench, and cover them over two inches deep, as quickly as possible. Plant the next row a foot from this, and continue the operation until the whole bed is planted. Beds five feet wide, with four rows in the bed, will

be found the most convenient, with alleys two feet wide. When all are planted, rake the surface smooth, leaving the plants about two inches below the surface, and trim down the edges neatly with the spade. Plants of any age will do, although those of one or two years old are the best.

Asparagus is usually propagated by seed, but those who want but a little will find it cheaper to buy it of the nurserymen or gardeners whose business it is to raise it. Good plants can be had for a dollar per hundred, or in quantities, cheaper. Two beds five feet wide and thirty feet long, will supply a family of five or six with a good dish every day. There ought to be none cut the first year, and but little the second, and none at any time after the 20th of June.

The best time for making the beds and planting, is October; but if very fine weather, November will do, or even early spring, providing the bed has been prepared in the fall. After all is planted, if in the fall, just before severe weather is expected, cover the bed all over with long, littersy manure or leaves, eight or ten inches thick. In spring, when all the bad weather is gone, rake off the covering and fork up the surface of the bed lightly, being careful not to touch the plants. Rake the surface of the bed smooth, sow on a little salt and keep clear of weeds. J. SALTER—*Rochester, N. Y.*

A CORRESPONDENT asks whether evergreens cannot be pruned at any time from April to November. Also, when evergreens—such as hemlock, spruce and fir—can best be transplanted. In reply to the first question we would say, that evergreens should never be pruned. The great beauty of evergreens is that they will, in favorable situations, form handsome trees without being pruned. Beside this, they have not the faculty of throwing out numerous side shoots like deciduous trees, and if an evergreen once loses its leader or terminal bud it is spoiled.

As to the second question, the spring is undoubtedly the best time of year to remove any evergreen, no matter of what species or variety. At any rate, that time is generally conceded to be the best.

CURRENT AND GOOSEBERRY TREES.—There is not a more beautiful shrub growing than the currant, when properly propagated; and the same may be said of the gooseberry. In order to make them form a beautiful miniature tree, take sprouts of last year's growth, and cut out all the eyes or buds in the wood, leaving only two or three at the top; then push them about half the length of the cuttings into mellow ground, where they will root and run up a single stock, forming a beautiful, symmetrical head. Cutting the eyes out the second year will cause it to grow higher. By this plan, an unsightly bush can be changed into an ornamental dwarf tree; the fruit is also larger, ripens better, and will last longer on the bushes.

PEARS of almost every variety are better ripened in the house than on the tree. They should be gathered when fully grown, and about the time when the seeds are plump, and spread in a dry airy place—say upon a chamber or garret floor. Ripening in this way greatly improves the quality.

It is said that the browsing of the goat gave the first IDEA of pruning the vine.

HORTICULTURAL NOTES.

THIS has been a very dry season, and in consequence vegetation has suffered greatly from the drouth; but this month fine showers have fallen, and every thing has freshened greatly. Roses this spring were very fine, and altogether made a good display. Among the finest hybrid perpetuals, Geants des Batailles stands pre-eminent for its splendid brilliant color, and free flowering habit; its color (nearly scarlet) being unrivalled. I have a plant about three feet high, that had 80 open flowers on it at once, and it was the admiration of every one that saw it. La Reine, too, is a splendid rose; and Wm. Jesse, Wm. Griffiths, and Auguste Mie, have been very fine. Caroline de Sansel is not half so good as represented, and nothing equal to Victoria. Of Bourbons, Noisettes, &c., there has been a good show. Of these Mad. Deprez, Acidalie, Jupiter, Souvenir de la Malmaison, Ophirie, Paul Joseph, Augusta, Smithii, &c., are good sorts. And here let me say, that nothing better repays care and trouble, in good soil and with good treatment, than the rose; the more growth you produce the more flowers you get, and *vice versa*.

Verbenas have not been so good this season as last, owing to the dry weather, but they are looking finely now. Of these, Scarlet Defiance, Heary Clay, (an improved Bicolor grandiflora,) Unique, Fanny, Mad. Lemounier, (a splendid variety,) Athlete, Queen Victoria, Etoile de Venus, Mazeppa, &c., are very fine.

Petunias have been good. They are valuable bedding plants, as they withstand the drouth better than anything else. Hermione, Eclipse, Challenger, Prince of Wales, Hebe, Great Western, and Alfred—a seedling of mine, with good form and color—are fine sorts.

Bedding Geraniums have suffered considerably from the drouth, the foliage having turned yellow; and it has in a great measure dropped off. There are several good new kinds, such as Capt. Darley and Chas. Damage, (which is an English variety re-christened,) which together with Commander-in-Chief, Tom Thumb, Ingram's Dwarf, Malison's varieties, and Lucia Rosea, make a good display.

Flowering Shrubs have done well this season, and have helped to make the garden or lawn look very gay. Japan lilies are now in flower, and are unrivalled in beauty and delicious fragrance. Dahlias have suffered much, and will disappoint many this year; but we must wait, for "there's a good time coming." Other bedding plants, such as Lantanas, Ageratums, &c., have done very well.

While on a visit to Toronto, C. W., this summer, I met with some of the finest specimens of bedding plants and shrubs that it was ever my fortune to see. Verbenas were really magnificent. In the garden of a lady friend was a Scarlet Defiance Verbena, from a cutting this spring, that for size and luxuriance of both foliage and flower I never saw surpassed, nor even its equal; and in the same garden a large plant of Ageratum Mexicanum, about three feet in diameter, and from a cutting this spring, was a complete mass of bloom. In the garden of the Normal School there were also some splendid specimens of flowering shrubs.

Of fruit there has not been so large a crop as last year, with the exception of Peaches, which are now coming in plentifully. Early Anne was ripe about two weeks ago, and now Crawford's Early and Early

York, &c., are in the market. Plums have been very abundant in this region, and are fine. Pears dropped considerably, owing to the drouth, and the specimens will be small. Apples will not be very abundant.

The meeting of the American Pomological Convention, in conjunction with the autumn exhibition of the Genesee Valley Horticultural Society, will be held here on the 24th, 25th and 26th of this month; and I hope the Horticulturists and Pomologists of the Genesee Valley will do their best to keep up the good name they have hitherto received.

Rochester, Sept. 8th.

W. T. GOLDSMITH.

AMERICAN PLUMS IN ENGLAND.

MR. RIVERS, of Sawbridgworth, a celebrated English nurseryman, says in the *Gardener's Chronicle*: "We are indebted to the Americans for some really valuable plums. Among them the Jefferson holds the first rank; ripening just after the Green Gage, and being equal to it in flavor and far superior in beauty, it cannot be too highly eulogised. I had some fine fruit in pyramids this season, which, owing to the fine weather in September, slightly shrivelled on the trees, and became of a deep golden color, blotched with red; they were full of delicious juice; I thought them superior even to the Green Gage. Denniston's Superb, ripening eight or ten days before the Green Gage, is also a valuable plum; this year the fruit was particularly fine from pyramids. Huling's Superb is also a very large and very rich plum. The Autumn Gage, an oval, medium sized, yellow plum, is very valuable, as it hangs well on the tree till after the middle of October. Bleeker's Scarlet is a useful kitchen plum, remarkable for its hardness and productiveness. Smith's Orleans has not proved quite equal to its reputation in America. Columbia is a large, round, and very handsome plum, rich and sugary but rather dry, and ripening with a crowd of other sorts, is not so valuable as the first named varieties. Corses Nota Bena, an oval purple plum, of medium size, is, I think, a Canadian plum, from Montreal; this is an enormous bearer, withstanding our spring frosts well, and ripening early in August. Plums are becoming valuable fruit, for, owing to several new varieties, the dessert and kitchen can be supplied from the end of July till nearly the end of October."

PRICE OF FRUIT IN CALIFORNIA.—The *California Farmer*, of July 25th, gives the price of fruit in San Francisco. "Strawberries, per box, \$2, down to \$1; cherries *only* \$4 per pound; currants 50 cents; other fruit in proportion to the quality." The editor had just taken a walk through the market, and thinks "it will be admitted that California is destined to become the finest fruit growing country in the world. The fruits that are now offered in our markets are superior to anything that can be found in any market in the United States or Europe." The Boston Pine and Longworth's Prolific strawberries were very superior, and the Napoleon Bigarreau cherries "the largest and best we ever saw."

THE STRAWBERRY.—Old IZAAK WALTON said, "Doubtless our Heavenly Father might have made a better fruit than the strawberry, but, certes, *he never did*."

WILD FLOWERS—THEIR CULTIVATION, &c.

The great and increasing taste for the cultivation of flowers has induced us to devote a few lines to the subject, more particularly to the cultivation of our native wild flowers. The interest of many cultivators has been drawn away by foreign productions, "far fetched and dear bought," while our natives, many of which are far superior in richness, have been left to bloom and fade, in all their beauty unknown and unseen, to "waste their fragrance on the desert air."

We profess to be a lover of Nature in all its phases, both animate and inanimate. We also confess we have a taste for flowers, and we have a taste for vegetables. Is it remarkable, then, that we should be fond of talking about them, or of writing about flowers—even wild flowers? Perhaps we may be accused of enthusiasm. Let it be so; call it what you please, for there is no denying that there is loveliness and beauty in flowers, and there are but few persons who do not admire them. Would it be strange then, that we should, in our zeal, be found traveling twenty miles, trowel in hand, to obtain a few roots of wild flowers? Is it wonderful, too, that we may have been seen at another time trudging with a spade on our shoulder, over the hills and through the valleys, in search of a cluster of the fragrant White Azalea, commonly called sweet-scented Honeysuckle, which we had before discovered while on a gunning excursion? Such, however, is a fact; and we traced its locality, like the pointer his game, by scenting its fragrance.

The hand of nature has scattered the richest beauties of the flowery world around us in every direction, and there is nothing to prevent us, from ornamenting our gardens with native plants and flowers, from every wood, from every swamp, from every field, from every prairie, from every brook-side, to which the eye can turn.

Here we cannot help remarking, that many flower-gardens are almost destitute of bloom during a great part of the season, which could be easily avoided, and a blaze of flowers kept up, in the garden as well as pleasure-grounds, from April to November, by introducing from our woods and fields the various beautiful ornaments with which nature has so profusely decorated them. Is it because they are indigenous—native Americans—that we should neglect them?

It is our present purpose to endeavor to awaken a greater zeal among cultivators and amateurs, for the growing of some of the brilliant plants and shrubs which deck our fields and woods. Few persons seem to appreciate, or even know, to what perfection of culture many of our wild flowers may be brought, in the hands of skilful gardeners.

Among the great number of wild plants, some of which we have noticed in this section, we have succeeded in cultivating the following named varieties:

SCARLET LOBELIA.—*Lobelia Cardinalis*. Among other plants found in the United States, remarkable for elegance, is the Cardinal Flower, which, in the last summer months, may be found along our swampy grounds, near fresh water streams. From its great beauty and showy appearance, it is a great favorite in Europe, and is generally cultivated in pots. It is a perennial plant, growing in a single stem from two to three feet high; leaves from three to five inches long and an inch or more in breadth, with a long, tapering base; flowers of a bright scarlet color, and very showy.

Although its habits are wild, and it is generally found in marshy or wet ground, and on the borders of rivulets, it grows readily when transplanted into a dry soil, if in a shady position. It is in flower from August to October. We once removed some of these plants to our garden, in the month of April, and they grew and flourished finely, producing an abundance of splendid flowers the same season, and were much admired by all who saw them.

We noticed quite a lot of these plants, in full bloom, about one year since, in the town of Parma, on a farm now owned by Mr. JAMES BRYAN, of this city.

Propagation.—Sow seeds in an open border, in April. By removing and dividing the roots or suckers in spring, after growth has commenced, or by cutting off the young shoots, it may be so propagated. It is scarcely possible to make the soil too rich by top-dressing of well rotted dung, or decayed vegetable mold;—the soil itself should be light.

SCARLET LILY.—*Lilium Philadelphicum*. Of all the tribes of wild flowering plants, the lily stands pre-eminent. It is noticed in the sacred writings, as of great brilliancy and beauty. "Consider the lilies of the fields, how they grow; they toil not; neither do they spin; yet I say unto you, that Solomon, in all his glory, was not arrayed like one of these."

The scarlet lily may be found in bushy places, on the borders of woods, and are growing in great abundance on the sandy plain between Albany and Schenectady. Whoever has passed over the railroad between these two cities, in the months of June and July, could not have failed to observe, on the banks on either side of the track, numerous single stalks, bearing scarlet-colored tubular flowers, waving to and fro in the breeze. This is the *Lilium Philadelphicum* of botanists: in plain English, Scarlet Lily. The stalk rises from one and a half to two and a half feet high, supporting one solitary upright flower. It blooms in June and July. The color varies from dark to light red, with a tinge of yellow; spotted within. This we consider a highly ornamental and showy plant, and deserves a place in every garden. The number of flowers increases by cultivation.

Propagation. by offsets from the bulbs; also seeds. Soil light sandy loam, with the addition of some fibry peat. They require to be slightly covered with hay, straw, or fine brush, in winter.

YELLOW LILY.—(*L. Canadensis*.) This well-known variety is common, and is found in moist meadows; flowers in June and July. It grows from two to three feet high, bearing from one to five or six nodding yellow flowers, spotted inside with dark purple. It is a bulbous-rooted plant, and we have transplanted them when in flower with good success, bearing from five to six beautiful pendulous flowers, in a whorl, on each stalk.

PURPLE LADY'S SLIPPER.—(*Cypripedium Spectabile*.) This plant is found in the vicinity of Albany, in woods, in both dry and moist situations; flowers in May. Roots thick and fibrous. Leaves from three to six inches long, from one to one and a half inches wide, at first erect, but finally spreading. Flower stalk rises from eight to twelve inches high; flowers pendulous, with a hollow fissure or indentation in front, greenish mixed with purple.

This plant bears transplanting and cultivation remarkably well, and improves by care and attention. We had no difficulty in cultivating them, and consid-

ered ourselves well paid, in their unique and splendid show, for all our trouble.

There are a great number of other beautiful native plants, that are worthy of cultivation, which we may notice hereafter. Three-fourths of the beautiful floral productions, so highly prized in European gardens, are actually natives of this country. C. N. B.

FLOWERING BULBS.

The beginning of October is a good time for planting hardy bulbs. Perhaps it would be as well to remind your readers of it; and at the same time it will not be out of place to describe some of the tender sorts, which require lifting in the autumn and housings through the winter. Persons wishing to have fine beds of tulips, hyacinths, crocuses, &c., for blooming next year, should plant the bulbs this month. They will, I think, find ample directions for their culture in the previous numbers of the *Farmer*. During the last two months there has been a good display of *Gladioli*, *Tigridias*, *Japan Lilies*, &c., and the two last mentioned species are in flower now.

The *Gladioli*, or *Sword Lilies* as they are commonly called, are magnificent flowering bulbs, and are but very little known. They should be planted in early spring, and will bloom in August,—a time when flowers are scarce, and for this quality alone, not taking into account the lasting quality and gaudy colors of the flower, they should be in every garden. They should be planted in rows two feet apart, and about eight or nine inches from bulb to bulb, in well pulverized soil, in which has been incorporated a good quantity of well rotted stable dung. The following varieties will be found to be particularly fine: *Psittacinus*, greenish yellow and red; *Cardinalis*, scarlet and white; *Floribunda*, rose-shaded; *Formosissimus*, bright scarlet; *Gandavensis*, orange, scarlet, and yellow; *Ramosus*, bright pink. The bulb should be taken up when the foliage has decayed, and put in some open place till quite dry, and then stored in the house where they will be free from frost or damp, or you will be sure to lose them.

The *Tigridia*, or tiger flower, too, is but very little known, although it should be in every garden. They are constantly in flower from the beginning of July till the last of September, and a bed of them in flower produces a brilliant effect. They should be planted in May, in rows one foot apart and about six inches apart in the rows. There are two varieties: *T. pavonia*, scarlet, spotted with yellow, and *T. conchiflora*, buff or yellow, spotted with crimson; and they both deserve a place in every well regulated garden. The bulbs should be treated in the same manner as directed for the *Gladiolus*.

There is also the *Amaryllis*, a charming thing. *A. Formosissima* is a beautiful dark velvet crimson color, and *A. Johnsonii* is rather lighter in color, with a dull white or greenish stripe down the centre of each petal. The bulb should be planted in the same manner as the tiger flower, and should be covered about two inches.

All these bulbs should be planted in May, and taken up as soon as the foliage has decayed, and stored away in a warm dry place for the winter. All of them can be procured at the leading nurseries, and I would advise every one who has a garden, and has not got them, to procure them in time for early planting next spring. Yours, &c.,

Sept. 11, 1856.

W. T. G.

A GOOD MARKET GARDEN, &c.

IN a private letter, enclosing a subscription to the *Genesee Farmer*, our esteemed correspondent, SAMUEL WILLIAMS, of Waterloo, N. Y., gives an account of a visit to a market garden in his vicinity, which we take the liberty of extracting for the benefit of our readers.

"It was by no means at my suggestion that you get one of our best practical farmers for a customer, as I had not seen him in a year or more. He said he had exchanged the — occasionally with a neighbor for the *Genesee Farmer*, but it was a bad plan, as he always wanted a paper at hand for reference, and to study at leisure its weightier matters. True, we have but few such farmers, and "pity 'tis, 'tis true."

"I have just been to see an Englishman's market garden, which beats any one I had ever before seen, even my own, except in corn, wurzel, cabbages and Lima beans; and he would certainly beat me in the Limas, if he could so far overcome his English prejudices as to plant them. I doubt whether a larger quantity of onions was ever grown on the same space on the earth's surface. Five years ago his garden was a wet sandy swale, where the muck had given the drab sand a blueish tint. He began by cutting an open ditch to let off surface water, so as to make the land fit to plant in the spring; heretofore it had not been dry enough to plant before the middle of June; his crops were better, but not large or early. He now runs tile drains 2½ feet deep and 40 feet apart through the lot; one of them was under his large onion bed. The onions were planted in rows twelve inches apart; the space is only ten inches after the onions are grown. In these rows the onions were from the diameter of a dollar to that of a half dollar, and some smaller; they not only touched each other in the rows, but most of them were turned up edge-wise, and still there was not space enough between the onions throughout a sixty foot row to place your finger. His tomatoes were earlier and larger than common; so were his potatoes. His bean crop very large; but his corn and cabbages, though excellent, were no better than is grown on good heavy soils.

"To the eye, this man's soil was coarser than a prairie soil, and a shade or two higher colored; but it was pulverulent, and rich in that muck or organic matter it had been collecting from the beginning. Mr. FOSTER said his onions had not been manured at all. A subsoil of calcareous clay here is several feet below the surface; the neighboring knolls of drab sand, being less aluminous than this swale, need much and constantly applied nitrogenous manures to make them anything like as productive. Here in this drained mucky swale, English turnips in part distanced worms and grew well; but all English as FOSTER is, he had sweet corn growing in drills, as a second crop, after peas and early potatoes. He says his cow prefers corn fodder to pithy turnips, and it yields much more in bulk."

GRAFTS.—Do not cut them in cold, frosty weather. If you do, you will find, on working them, that many will be black at heart; and the growth will be much checked the coming season.

NOTWITHSTANDING their great horticultural skill, the Chinese knew nothing of *grafting* till taught by modern missionaries.

LOVE OF FLOWERS.

FLOWERS are considered the ornaments of vegetable life, and have in all ages been cultivated by persons of leisure and taste, for the pleasure they yield to the eye and the fancy. While generally healthy and exhilarating, from being pursued in the open air, floriculture is justly considered to be a fine and harmless recreation, which by leading to tranquil contemplation of natural beauty, and diverting the mind from gross worldly occupations, has a positively moral, and therefore, highly beneficial tendency. It has also the advantage of being open to the pursuit of high and low, rich and poor, the over-worked man of business and the industrious mechanic. It is confined to no particular degree or situation. It may be followed with equal enjoyment by individuals of both sexes, and, as is well known, on every imaginable scale, from that of the single flower-pot, or ornamental border, to the princely green-house and the exquisitely varied parterre. We love flowers. We even love the wild flowers of our woods and fields, and their cultivation has afforded us great pleasure. The natural grace, simplicity, and attractive coloring of flowers, have afforded endless themes for moralists and poets, and volumes have been written to show how many associations of feeling, simple and sublime, these beautiful objects are calculated to excite.

As our desire is to improve the taste as well as the understanding, we hope to be excused for pausing a few moments over this agreeable view of flower-culture. Few natural objects are more poetical, or more calculated to refine the morals and taste, than flowers. "From the majestic sun-flower, towering above her sisters of the garden, and faithfully turning to welcome the god of day, to the little humble and well-known weed that is said to close its eyes before impending showers, there is scarcely one flower that may not from its loveliness, its perfume, its natural situation, or its classical association, be considered highly poetical."

As the welcome messenger of spring, the snow-drop claims our first regard; and numberless are the lays in which the beauties of this little modest flower are sung. The snow-drop teaches us a lesson, too. It marks out the progress of time. We cannot behold it without feeling that another spring has come, and immediately our thoughts recur to the events which have occurred since last its fairy bells were expanded. Whether the "cowslip which spangles the green," or the violet, while it pleases by its modest, retiring beauty, possesses the additional charm of the most exquisite of all perfumes, which inhaled with the pure and invigorating breezes of spring, always bring back in remembrance a lively conception of the delightful season. Thus, in poetical language, the "violet-scented gale," is synonymous with those accumulated and sweetly-blended gratifications which we derive from odors, flowers, and balmy breezes; and, above all, from the contemplation of renovated nature once more bursting forth into beauty and perfection.

An error, not uncommon, in deciding which flowers shall be planted, is to select numbers merely for their variety or novelty, without reference to what will be their appearance when in bloom, and which generally leads to disappointment. Unless for botanical illustration, make a choice of flowers on two principles—those which will be beautiful when in

bloom, although common, and those which will bloom at the particular season required, to ensure a succession of variegated beauty from spring to autumn. The true amateur gardener takes a pride in cultivating and improving even the common wild flowers of our fields—urging them, by careful culture, to the highest state of perfection, as to size and brilliancy of coloring, of which they are susceptible. C. N. B.

MIGNONETTE.

The volant sweets of the trailing Mignonette,
The odors vague that haunt the year's decay.
CHARLES TENNYSON.

THIS well-known flower, of all dispensers of perfume, is most cultivated, and most welcome to such a cognomen as the Parisians handed over to the English with the seeds: Mignonette, ("little darling") though its real name, *Reseda odorata*, is more acceptable to the naturalist, (from the Latin *resedo*, to appease, given from its supposed virtue in allaying inflammation,) as it suggests to him its rank in LINNÆUS' artificial classification in the great medicinal family, *Polyandria*,—where it is the companion not only of many things beautiful, but of hellebore and tea and mighty opium, (Poppy,) whose narcotic properties penetrate stealthily to that awful line which divides or unites the body and the soul—lulling the faculties to those oblivions whose nature baffles human physiology.

Mignonette, cultivated the earth over almost as an annual, (it is said one London seedsman sells a ton and a half of seeds yearly,) is really in its native Barbary, on the sandy shore, a hardy shrub,—and called Tree Mignonette, is mentioned to us as an *African curiosity*, when nothing in its nature or habits prevents it here from growing shrubby and tall, but neglect to furnish it common warmth and protection during its first two winters. To obtain trees, the hardiest plants are chosen from those whose seeds are sown in April, and set separate in pots, and the blossom buds cut off as fast as they appear. In autumn fresh soil is required, of coarse loam and sand, and placed in a warm room and trimmed to a miniature tree—all but the top branches removed. With daily watering it will continue growing, and by spring the stem grows woody. The side branches and blossoms are removed till the third year, when the bark is formed, and it may be suffered to flower, and will continue to blossom with uncommon fragrance during many summers.

Repeated sowings will keep it blooming as an annual throughout the year; for it knows no season. If self-sown seeds are dug under the ground in September, they are most healthy, and bloom early and through June. Sown in February, they will produce very early flowers also. Sown in April in open ground, they flower from July to November; and for winter flowering they must be sown in July, in open borders, or in pots the last of August. From three to eight may be left in a pot. When they are to be kept back, the pots are placed for warmth in sawdust or ashes, and placed with cloths spread over them in *dark cellars*. They would struggle after light if a little were admitted, and take weakly, ill shapes. The darkness will etiolate them, but a few days of exposure to the sunlight will re-tint them, and a blanched plant produces a pleasing effect in contrast with those of natural color. The seeds are always good, and plentiful, and cheap.

Ladies' Department.

FARMER'S SONG.

BY W. L. EATON.

"A rural life is the life for me,"
Away from the city's strife,
Where the breath of Heaven is pure and free,
And nature's full of life;
Where the earth is clothed with a lovely green,
The flowers smiling and fair,
And the wisdom of God is distinctly seen
In all that flourishes there.

We do not envy the man of trade,
Whose life is with cares oppressed,
Who only is happy as wealth is made,
And not when others are blessed;
His life bound up in his merchandise,
His heart absorbed in his gains,
The beauty of earth shut out from his eyes,
But not from his soul its pains.

We have nothing to do in Ambition's ways,
And do not envy the great,
Puffed up by the hollow voice of praise,
And perplexed with the cares of state;
Elated with hope or depressed with fear,
They must run when the people call;
We are happier far in our humble sphere,
Than they in the Nation's hall.

The gifts of Heaven are freely bestowed,
The harvest our labor craves;
No despots can reach our peaceful abode,
We quail at no tyrant's frowns.
A rural home is the home we love,
Away from the city's strife,
We bow to none but the God above—
None know a happier life.

HINTS FOR HOUSEWIVES.

The following recipes are furnished us by an experienced housekeeper. They may all be relied upon.

GREEN TOMATO PICKLES.—Take any size, but those ready to ripen are the best, place them in a vessel and throw on a handful of salt; cover with boiling water, and let them stand till cold; then slice them through transversely once or twice according to the size; then lay them in a crock with this sliced onions. Prepare the vinegar with cloves, cinnamon and allspice, and pour on hot. Cover and set away for nine days. They will be found very delicious, and will keep all winter. Those who dislike onions may omit them.

PICKLED PEACHES.—To one quart of good vinegar put 3 lbs. of sugar. Boil and skim it. The liquid will cover a peck of peaches; stick two or three cloves in each peach, and boil them a dozen at a time in the vinegar and sugar until they are well cooked. Take them out with a fork and place them in the jar. When all done strain the syrup over them.

PICKLED PEPPERS.—Take two dozen large size garden peppers, (green); slit them carefully on the side; take out the pulp; put on a table spoonful of salt, and cover them with boiling water for nine days; then fill them with cabbage cut fine, and a little salt; sew them up, then lay them in vinegar.

CRULLERS.—One cup of sugar, one cup of sweet milk, two eggs, one table-spoonful of butter, one of cream tartar, one tea-spoonful of soda, roll and cut very thin, then fry them.

SALLY LUND.—One pint of new milk, two eggs, one table-spoonful of butter, one of lard. Make a stiff batter, and add yeast enough to lighten. This is good for breakfast, or in place of Johnny Cake.

GINGER SNAPS.—Two pounds of flour, one-half pound of butter, one-half pound of sugar, one-half pint of molasses, one tea-spoonful of saleratus, two table-spoonfuls of ginger; flavor with cloves or cinnamon.

TO CLARIFY CIDER.—The following is an old but good recipe: Put newly-made cider into a clean barrel, and leave it to ferment a few days, and then put in it six ounces of ground mustard, tied up in a rag; the cider will become sweet and clear, and remain so until exposed to air.

TO DESTROY ANTS.—It is said these troublesome pests may be destroyed as follows: Take a large coarse sponge, and dip it in sweetened water; place it where the ants "most do congregate," and as they are passionately fond of sweets, they will soon gather in the sponge in quest of it. Have a dish of boiling water handy, and plunge them in. Repeat the process until they are "used up."

TO PICKLE GHERKINS AND KIDNEY BEANS.—Put the beans and gherkins dried with flannel, in salt and water that will bear an egg, leave them till quite yellow, stirring every day. Then put them in a brass kettle, with cabbage leaves under and around them, so that they do not touch the brass. Put in one-third vinegar and two of water, put a leaf over them, and cover quite close, so as to confine the steam. Put them on a slow fire, but do not let them boil. Change the leaves as often as they grow yellow. When green, take out the pickles, and put them on a dish to cool and dry. Boil the vinegar with a spoonful of black pepper, and one of bruised ginger to a quart; throw it boiling over the pickles, and cover them closely in small jars.

HOW TO MAKE TEA PROPERLY.—The proper way to make a cup of good tea is a matter of some importance. The plan which I have practiced for these twelve months is this. The teapot is at once filled up with boiling water, then the tea is put into the pot, and is allowed to stand for five minutes before it is used; the leaves gradually absorb the water, and as gradually sink to the bottom; the result is that the tea leaves are not scalded, as they are when boiling water is poured over them, and you get all the true flavor of the tea. In truth, much less tea is required in this way than under the old and common practice. JAMES CUTHILL.—London.

TO MAKE VINEGAR.—Put a gallon of water to 1 lb. brown sugar, mixing it with half the water cold, half boiling hot; when about milk warm throw in a toast well browned, cover with canvass or glass; when it has done working, stop the vessel and put it in a warm place. It will be fit for use in three or four months.

APPLE JELLY.—Take pippins or Spitzzenburgh apples, and stew them until they are soft, in as little water as possible; strain it through a flannel, and to each pint of syrup add one pound sugar. After boiling fifteen minutes, turn it into molds.—*Cousin Susan's Recipe Book.*

TO CURE HAMS.—When you are smoking your hams, occasionally throw upon the fire a handful of China berries, and it will be found a preventive against skippers. So says a gentleman who has seen it sufficiently tested in South Alabama.

PICKLE FOR BEEF.—To one hundred weight of beef, four quarts of salt, two ounces of saltpeter, and one pint of molasses. Mix in water enough to cover the meat.

Editor's Table.

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY FOR 1857.—This work will be issued in a few weeks. The success of the first number has induced us to spare no expense or labor in endeavoring to make the next volume superior to anything of the kind ever published in this country. It will contain, among other things, an excellent article on Farm Houses, written expressly for the *Rural Annual*, by HOWARD DANIELS, of New York; articles on the Cultivation of Small Fruit, on Hedges, &c., by H. E. HOOKER, with a design for laying out a small fruit garden. Also, a continuation of the article in last volume, on Flower Gardens and Lawns, by R. R. SCOTT. These articles will be profusely illustrated with beautiful wood cuts drawn and engraved expressly for this work. Also an article on the Breeds and Management of Poultry, written for the *Rural Annual* by C. N. BEMENT, author of the *American Poulterer's Companion*, illustrated by numerous engravings. The work will also contain much condensed information on a variety of subjects interesting to the farmer and gardener.

We shall also give the list of nurserymen published in the last volume, greatly enlarged and corrected. Also a list of Agricultural Implement Makers in the United States, so far as we have been able to ascertain their names and residences.

Advertisements must be sent in previous to the 20th of October. All Nurserymen and Agricultural Implement Makers who advertise in the work will have their names set in *larger type* in the lists of Nurserymen and Agricultural Implement Makers, with a star calling attention to the advertisement. Those who advertised in the *Rural Annual* last year state that in no other paper did they receive so much benefit from their advertisements as from those in the *Rural Annual*. Advertisements inserted at the rate of \$20 per page, according to the space occupied. Address JOSEPH HARRIS, publisher of the *Genesee Farmer* and *Rural Annual*, Rochester, N. Y.

FARMERS GIVE US YOUR EXPERIENCE.—The leisure season of farmers and gardeners is now approaching. Another year's experience has been added to your previous knowledge. Can you not be induced to relate some portion of this experience to the readers of the *Genesee Farmer*? We do our best to make a good paper, but we are quite conscious that we cannot succeed without your aid in this respect. As soon as you have read this paragraph, please sit down and think over your experience of the past summer, and see if there is not at least one fact you have observed that would be of interest to your brother farmers. Then take pen and ink, and without delay—if you procrastinate we shall never hear from you—write it down as concisely as possible, and send it to us at once, and you shall have our best thanks, and the thanks of thousands of the best farmers in the world.

NEGLEY'S SEEDLING CUCUMBER.—I purchased a package of seed of this variety this spring, hoping to have something really good for my trouble. I gave the plants a good chance on a frame made on purpose for them, and gave them good steady gentle bottom heat. For my trouble I got small, miserable, bitter fruit, not worth looking at, and I would advise all persons who have a penchant for growing a good cucumber, not to be gulled by advertisements of this thing, for it is truly worthless.

Yours, W. T. G.

MONROE COUNTY FAIR.—The Annual Exhibition of the Monroe County (N. Y.) Agricultural Society was held on the new fair grounds of the Society near this city, Sept. 24th to 26th. Monroe County has long enjoyed and deserved the reputation of being second to none in soil and climate, and in the skill and science of her cultivators. She produces more wheat than all the five New England States put together, and her average yield of wheat is believed to be higher than that of any other county in the State. Her nurseries are world-renowned, and in fruits and horticultural products generally, she has no superior, if an equal, in this or any other country. The exhibitions of the Monroe County Agricultural Society, under such circumstances, ought to be at least equal to those of any other county in the State. Hitherto, we are sorry to say, they have been inferior to many counties possessing no such advantages. One cause of this was owing to the fact that a general impression prevailed in the country that the Society was managed by a clique of city people. Several meetings were held last winter for the purpose of ascertaining what could be done to place the Society in a better position. The leading farmers of the county showed themselves alive to the importance of the subject, and it was determined to purchase permanent grounds near this city for holding the Fair, and to erect the necessary fixtures, &c. The Fair this year was held on the new ground, liberal premiums were offered, and earnest efforts made to secure the success of the exhibition. They were abundantly successful. The attendance was very large, and the receipts highly satisfactory. We are sorry to add, however, that it was not the fine horses, cattle, sheep or pigs, nor the excellent machines and implements exhibited, that brought the crowd and the money, but the "Trials of Speed," and the "Lady Equestrianism." Some half dozen young ladies exhibited themselves on horseback, to their own apparent satisfaction, and the uproarious delight of the boys. It was the first exhibition of the kind we have seen, and though we are as much opposed to it as ever, we must say that we saw nothing that the most prudish could pronounce improper or indelicate—although we did hear a lady say that for such a windy day, the habits of some of the fair riders were not sufficiently "shotted."

STEAM PLOW.—Mr. C. S. CONGER, of Port Huron, Mich., has sent us a diagram and description of a steam plow he has invented. It consists of a large wheel furnished with small mould boards placed on arms so as to follow each other, and made to turn the opposite way from that in which the machine moves, "thereby applying all the power to the axle of the plow wheel, and thus getting rid of all dragging motion. It is driven by a large driving wheel furnished with teeth to keep it from slipping."

UNITED STATES AGRICULTURAL SOCIETY.—The Annual Fair of the National Agricultural Society will be held at Philadelphia next week. *Fourteen thousand dollars* are offered in premiums, and if the weather is fair, the success of the exhibition is beyond peradventure. We shall endeavor to give a full report of this Fair next month.

A LARGE PEAR.—At the late meeting of the American Pomological Society, Mr. FIELD, of Brooklyn, stated that he had received a Vicar of Winkfield pear, from Oregon, that weighed *twenty-six ounces*!

We delayed our paper a few days this month, in order to get in reports of the American Pomological Society, and the Provincial Fair of Canada West.

VERMONT STATE FAIR.—The Sixth Annual Exhibition of the Vermont State Agricultural Society was held at Burlington, September 9th to 12th. The *Boston Cultivator* says the leading department, horses, was quite as well filled, and probably of as high an average quality, as that of any previous exhibition of the Society. The cattle classes appeared to less advantage. The sheep were less numerous than usual, but of fair quality; the swine not remarkable for numbers or goodness. Poultry were hardly worthy of mention. The mechanical department rather above the average for this Society. Fruit less than last year. Other departments about the same as in former years.

The weather was very favorable, and some 18,000 or 20,000 persons attended the Fair. The Show considered in connection with the former displays of the Society, demonstrated the ability of Vermont to take a high position in regard to agricultural products, and even to take the lead in some important classes. It is only necessary that capital and persevering skill should be brought to bear on the resources of the State, to render labor as productive and profitable as in any section of the country.

Horses formed the leading feature of the exhibition; the whole number was nearly 300. More than 200 of them mostly in sulkeys, were paraded on the course on Wednesday morning, and after passing twice round, they filed into the centre and formed a line, fronting the stands for the judges and spectators, making a splendid appearance, and eliciting numerous encomiums. The old "Green Mountain Morgan" was on the ground, and although 20 years old, "shows much of his youthful fire, and moves the picture of a war horse."

The cattle, as a class, showed but little breeding. There were some quite heavy fat oxen, and some young steers which were tolerable merely as steers. But the breeding stock—bulls and cows—with few exceptions, were no credit to their owners or to the State. Sheep were much less in numbers than at former shows, but there were specimens from some of the best Merino flocks—as Mr. HAMMOND's, of Middlebury, Mr. SANDFORD's of Orwell, Mr. BUSN's of Shoreham, &c. There were but few specimens of the French Merinos on the ground. The absence of these, and of the Shanghai fowls, which once formed so prominent an object at the shows, gave rise to various remarks tending to illustrate the "passing away" of things.

THE OHIO STATE FAIR.—The Seventh Annual Exhibition of the Ohio State Agricultural Society, took place at Cleveland, September 23-26. The first two days were rainy, but on the third day the weather cleared up, and the Buckeye farmers, their wives and children, turned out in immense numbers. Thirty-one thousand tickets were sold during the day, and it is estimated that there were on the grounds at one time, upwards of fifty thousand persons.

The show of stock was the principal feature of the Exhibition. In variety, extent, and quality, it is said to have been decidedly superior to any previous collection in Ohio, and it is contended by some, in any State in the Union. There were 198 entries of horses, many of them thorough bred, and possessing great merit. Sheep were out in full force. Several eminent breeders from Vermont and other Eastern States exhibited largely.

The show of implements and fruit was not equal to that of last year. There was a good show of grains. Some varieties of corn exhibited by W. D. KELLY, of Ironton, attracted some attention. He states that he has raised from one of them, one hundred and fifty bushels of corn per acre! Some stalks of timothy grass, grown in California, were shown by Mrs. W. SMITH, of Cleveland, which were over ten feet in height.

NEW YORK STATE FAIR.—This year as last, the New York State Fair opened under very unfavorable auspices. For several days previous to the Fair the weather was very unsettled, and on the first and second days of the Fair it rained almost incessantly. The third and fourth days, however, were fine, and the farmers of the northern counties turned out *en masse*. The exhibition itself was excellent—one of the best, intrinsically, ever held in the State. The northern counties have long been celebrated for fine horses, and the local committee had made great preparations for calling out and exhibiting them to the best advantage. The show of horses has never been surpassed, if equalled, at any previous Fair of the Society. The exhibition of cattle and sheep was very fine. The Devons were out in full force—there were more than all the Short-horns, Herefords, and Ayrshires put together,—and many of them were of marked excellence. There was the best show of Herefords we have ever seen in this country. Durhams few in number, but good. Ayrshires very fine. Mr. RODDICK, of Canada, exhibited his Galloway bull, (noticed in our account of the Provincial Fair,) which attracted much attention. The exhibition of milch cows, calves and heifers, was splendid, and the animals showed that the farmers of the dairy districts of this State are making great improvements in their stock. The various breeds of sheep were well represented. There were 142 pens. The fine-wools—Saxon, Spanish, Silesian and French Merinoes—were numerous and excellent. Coarse wools, from this State and from Canada, superior to any previous Fair. The Leicesters especially were very fine. Swine not numerous, but those shown—especially the large breeds—were very fine. Poultry good, but there was a great falling off in the large breeds.

In the mechanical department the show was not as large as usual; but there were some new implements and machines showing marked improvements, which space forbids us to notice at this time.

The dairy department, as might be expected, was very full. There were some 80 entries of butter, and nearly all of superior quality. We are informed that the committee picked out twelve samples, of which they found it almost impossible to decide which was best. Several of the samples they thought were overworked. The show of cheeses was very large and excellent—many of them of great size and of excellent quality. We were sorry that more dairy utensils were not exhibited.

The exhibition of Grains, Vegetables, &c., was good, though not quite equal to the show at Elmira last year, which was the best we ever before witnessed. Fruits and flowers about an average. The storm on Sunday night blew down the Floral tent, and did much damage to the articles on exhibition. The officers of the Society by great exertions, succeeded in repairing the injury, and as usual, "Floral Hall" was filled to overflowing with visitors. There was a fine water fountain playing in the centre of the Hall, which had a pleasing effect. "Domestic Hall" was well filled with articles, many of them possessing much merit, and showing that the ladies in the northern counties are well skilled in the use of the needle.

The grounds were admirably located, containing some 25 acres, 6 of which were a beautiful grove. The local Committee are entitled to great credit for the excellent arrangement of everything connected with the exhibition. The Fair on the whole, notwithstanding the bad weather, may be regarded as eminently successful, alike creditable to the Society, and the friends of Agriculture in Watertown and vicinity.

Inquiries and Answers.

SHEEP RACK.—I should feel obliged if some of your correspondents would tell me how to make a good rack for feeding sheep? A YOUNG BEGINNER.

Martinsburg, Lewis Co., N. Y.

SPRING WHEAT IN THE FALL.—A correspondent at Pittsfield, Pike Co., Illinois, wishes to know if it will do to sow spring wheat in the fall in his climate? We have had no experience on the point, and should be glad if some of our correspondents who have, would answer the question.

GRAFTING LILAC ON ASH STOCK.—In the June number our esteemed correspondent, D. of Gates, asked whether the lilac could be grafted on the ash, and in answer to the query, the *Western Farm Journal* has the following: "We don't know what may be done in Western New York, but in Northern Kentucky, grafts of the lilac take very readily when inserted into stocks of the black ash. The shoots from such grafts will grow from ten to fifteen inches the first year, but are apt to die out in midsummer, especially if the season be a dry and hot one."

(J. LOWE, Fayetteville, N. Y.) You do not mention the color of your friend's grape, but from your description of the vine, it is evidently a fox grape. If a light color, it is in all probability the Charter Oak. The Northern Muscatine is a humbug. The Diana is a desirable variety, ripening earlier than the Isabella, and is a better grape. The Clinton, too, is very early, but small, and only medium in quality—for wine it has no superior in this vicinity.

(W. LIVINGSTON, Lawrenceburgh.) The tame or cultivated varieties of grapes can be grafted upon wild grape roots with tolerable success by the common method of cleft grafting, but such a mode of propagation is not desirable, as vines can be grown so easily from cuttings and single eyes, or by layering, with much greater success than by grafting. If grafting is preferred, the roots should be taken up in early spring, and grafted in the same manner as you would apple roots, winding them in waxed cloth.

Victoria Rhubarb will not come true from seed, but good varieties may be produced by that means. Myatt's Victoria is the correct name, but the hybrid varieties obtained from seed are sometimes called Victoria. It is generally considered to be better than the Giant.

One row of staminate to six of pistillates will be enough, although one to four is recommended by many.

WINTER BARLEY.—Can you or any of your correspondents give me any information in regard to the cultivation of winter barley? H. E.—*Spencerport, N. Y.*

We should be glad if some of our experienced correspondents would answer the above inquiry. We understand that a gentleman near this city has sown twelve acres of winter barley this fall. In the Southern States, oats and barley are frequently sown in the fall, and an Indiana correspondent of the *Genesee Farmer*, some time ago stated that good crops of winter barley were obtained in that State. Whether it will stand the winter here or not we cannot say.

HOOKE'S SEEDLING STRAWBERRY.—Sometime ago you spoke highly of a new seedling strawberry called "Hooker." Can you inform me where the plants can be obtained, and at what price? G. R.—*Milan, Ohio.*

Plants can be obtained of H. E. HOOKER & Co., of this city. Price \$5 per hundred.

(H. M. DEVOL.) CARNATION, (*Dianthus Caryophyllus*.) The plants will not need housing during the winter, although it is best to cover them with leaves or straw. The mice are great enemies to them, and will eat them clean to the ground if they get at them.

Your pansy is a very fair size, though not unusually large. It would be much better to leave it out all the winter, giving it slight protection.

ADVERTISEMENTS.

To secure insertion in the *FARMER*, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS.—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

LAWTON BLACKBERRY.

DESCRIPTIVE CIRCULARS, with terms of sale, and ample directions for cultivation will be forwarded to applicants.

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FRUIT AND ORNAMENTAL TREES.

HIGHTSTOWN, N. J.

THE Subscriber offers for sale, for the Fall of 1856 and Spring of 1857, a fine collection of Standard and Dwarf Pears, Standard and Dwarf Cherries, Standard and Dwarf Apples, Apricots, &c. 200,000 Silver Maple Seedlings, and Ornamental Trees of the most approved varieties.

A Descriptive Catalogue, and a Trade List for wholesale dealers and nurserymen, will be sent on application. Applicants for either will please enclose a penny stamp. ISAAC PULLEN,
Sept. 1—2th. Hightstown, Mercer Co., N. J.

HIGHLAND NURSERIES, NEWBURGH, N. Y.

A. SAUL & CO., in calling the attention of the public to their stock for autumn planting, beg leave to say that at no former time have they been so well prepared to meet the constantly increasing demand for trees, &c., as at present.

In the Department of Fruits, their stock of trees and plants of Apples, Pears, Plums, Cherries, Peaches, Apricots, Nectarines, and Grape Vines; also, Gooseberries, Currants, Raspberries and Strawberries, as well as all the smaller and miscellaneous fruits, are of the finest quality as regards size and thriftiness, and include all the best varieties in cultivation.

The Ornamental Department is also full and complete, especially in all the leading varieties, both of Evergreen and Deciduous Trees and Shrubs, many of which are of extra size, suitable for street planting, or giving immediate effect around newly erected dwellings.

A fine collection of Roses, also Hedge Plants, Asparagus and Rhubarb roots, &c., &c., and all articles that are usually to be had in the trade. For particulars see Catalogue, a copy of which will be mailed to applicants on enclosing a post office stamp to pre-pay the same.

Dealers and planters of trees on a large scale dealt with on the most liberal terms.

Orders by mail promptly attended to, packed in the best manner, and forwarded as directed.
Newburgh, Oct. 1, 1856.—1t.

TO FARMERS AND MECHANICS.

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THESE Machines stand unsurpassed and without parallel, as machines for the purpose intended—viz.: Spreading Lime, Ashes, &c., and sowing Guano, Superphosphate of Lime, Plaster, or any such fertilizers.

They are simple, strong, durable, and adjustable to sow any desired quantity to the acre that farmers may desire. Any common hand can operate them.

They are of very easy draft for horses or oxen, for which they are adapted. One or two hands and a team can with ease do four times as much with the use of the Machine as they could in any way without it, and in a manner, for evenness, wholly inimitable.

No. 1, Lime and Guano Spreader Combined, 5½ feet wide,	
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Guano Spreader, 5 feet wide, (one horse),	40 00
" " 8½ " (two horses),	60 00

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All orders or communications addressed to LEWIS COOPER, Christiana Post Office, Lancaster County, Pennsylvania, will meet with prompt attention.

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oct. 1.

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PUBLISH the following books for the country, and will send them, free of postage, to any part of the United States upon receipt of the price.

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October 1, 1856—1t.

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September 1, 1856.—2t.

Rochester, N. Y.

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HAVING to devote my time to other business, I have determined to sell several Farms, now in cultivation under my own direction, and also a Grist Mill and Saw Mill. The mills are situated about six miles from the county seat, in a thickly settled portion of the country, on never failing streams, and healthy locations. There are two run of stones in the Grist Mill, together with all the machinery for manufacturing flour, buckwheat flour, corn meal, &c. The mill is 60 by 40 feet, three stories high, with a 16 feet wheel. The Saw Mill is run by a submerged center discharging wheel, cast gearing; and the Mills, within 80 feet of each other, are run by different streams, and were built in 1851. There is attached to the mills about 200 acres of land, part of which is in cultivation in grain and grass. There are four tenements on the land, rented out; three of them, without any land, pay \$100. The mills are under my own direction, and the miller rents the farm, and pays crop rent. The mills rented last year for \$400. There is a large portion of bottom land on this farm which is valuable. The Alexandria, Loudoun & Hampshire Railroad passes within 100 yards of the mill, where there is to be a station, &c.

I also have a Farm of 100 acres adjoining the county seat, well improved, good house of brick, orchards, well watered, and all the necessary outbuildings. The Menassas Gap Railroad passes through the village, and also a turnpike road to Washington and Alexandria, which are distant about 15 miles. I have also another Farm of 100 acres, within three-fourths of a mile of the county seat, one half of which is in timber, and the other in cultivation. I am building a house on this, which will be finished by fall. I have also one other Farm of 120 acres, lying about four miles from the county seat, in cultivation by a Northern man, who has resided on it three years.

I will sell any or all of these Lands, &c., on reasonable terms. Persons desiring further information, can address the undersigned at Fairfax Courthouse, Va., who will give information, if desired, relative to his own or any other lands in this or the adjoining counties.

May 1, 1856—4t.

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The Farmer's Cyclopaedia. By Blake. Price \$1.25.	
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Allen's American Farm Book. Price \$1.	
The American Florist's Guide. Price 75 cents.	
The Cottage and Farm Bee-Keeper. Price 50 cents.	
Hoare on the Culture of the Grape. Price 50 cents.	
Country Dwellings; or the American Architect. Price \$6.	
Lindley's Guide to the Orchard. Price \$1.25.	
Gunn's Domestic Medicine. A book for every married man and woman. Price \$3.	
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Allen's Diseases of Domestic Animals. Price 75 cents.	
Saxton's Rural Hand-books. 2 vols. Price \$2.50.	
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Smith's Landscape Gardening. Containing hints on arranging Parks, Pleasure Grounds, &c. Edited by Lewis F. Allen. Price \$1.25.	
The Farmer's Land Measurer; or Pocket Companion. Price 50 cents.	
Buist's American Flower Garden Directory. Price \$1.25.	
The American Fruit Grower's Guide in Orchard and Garden. Being the most complete book on the subject ever published.	
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Rural Annual and Horticultural Directory. Price 25 cents. Do in cloth, 50 cents.	
The above will be sent free upon receipt of price annexed.	

*The Practical and Scientific Farmer's Own Paper.***THE GENESEE FARMER,**

A MONTHLY JOURNAL OF

AGRICULTURE AND HORTICULTURE,

ILLUSTRATED WITH NUMEROUS ENGRAVINGS OF

Farm Buildings, Animals, Implements, Fruits, &c.

VOLUME XVII. FOR 1855.

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JOSEPH HARRIS,

November, 1855.

Rochester, New York.

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VOL. XVII, SECOND SERIES.

ROCHESTER, N. Y., NOVEMBER, 1856.

No. 11.

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JOSEPH HARRIS,

November, 1856.

"Rochester, New York."

EXHIBITION OF THE U. S. AGRICULTURAL SOCIETY.

THE Fourth Annual Fair of the United States Agricultural Society took place at Philadelphia, Oct. 8-11. The weather was delightfully propitious, and the success of the Exhibition equal to the most sanguine expectations. The Fair ground was beautifully located, and had been fitted up for the occasion in the most substantial manner—bordering almost on extravagance. The attendance was very large—some 80,000 persons, according to a careful estimate from the number of tickets sold, &c., being present on Thursday. Let us join the crowd. Here is a temporary gallery erected on the outside of the race course, and capable of seating several thousand persons. You can get a seat for 25 cents. The track is half a mile round, and is fitted up in a most superior manner. It is said to have cost *seven thousand dollars!* President Wilder has just inaugurated the exhibition in one of his neat and appropriate speeches, and now there is a grand display of all the horses in the ring.

"Did you ever see such a show of horses before?"

"Yes. It is not superior if quite equal to that made at the exhibition of this Society at Boston last year."

"A trial of speed is shortly to take place, and the seats will be soon occupied. Shall we go and visit the cattle?"

"No; let us see the race."

"Now they are off. That first man is a celebrated driver, hired for the occasion."

"The horse he is driving does not amount to much,

so far as symmetry and beauty are concerned, but he knows how to go."

"I never saw a horse stand the whip so well."

"I never saw a horse whipped so brutally in my life. It is cruel, when a horse is straining every muscle to do his best, to beat him so unmercifully. I can stand this no longer."

O! nonsense. If you call this cruelty, what would you say to seeing a horse urged on till he dropped dead beneath his rider, as I once did at a "Steeple Chase" in England?"

"I say that these "Trials of Speed" are insidiously creating a love for these species of amusements, which, if not checked, will make the Race Course as popular and as pericious as it was in the reign of King Charles the First, of England, when priest and peasant assembled on the village green each Sabbath afternoon to witness bull and cock fighting, badger baiting, racing and gambling, and went home drunk in the evening."

"But you do not mean to say that there is any harm in witnessing such a race as has just taken place?"

"I think that the tendency of these races is bad, and calculated to make the race course and its attendant evils popular among the respectable portion of the community, and with the rising generation in particular. I will stay here no longer."

This is a new arrangement of the cattle stalls.—The animals are so placed as to give you a side view, and the stalls instead of being placed in a single row on the outside of the grounds, are arranged in short rows in a body. In this way you can walk along the ends of the rows and get a passing glance at all the cattle in the row. Taking it altogether we have never seen in England or in this country so good an arrangement.

First come the Shorthorns. SAM'L THORNE, Esq., of Washington Hollow, Dutchess Co., N. Y., exhibits several superb animals from his celebrated herd, the bull "Neptune" among the number. He is a noble fellow, though not equal to a bull Mr. THORNE has recently imported, and which is considered too valuable to risk the casualties attending the transportations to and from the Fairs. We suppose too, Mr. T., thought "Neptune" could not be beat—and the judges thought so too and gave him the first premium. Here, surrounded by a crowd of admirers, is the imported bull "Duke of Cambridge," belonging to THOMAS RICHARDSON, Esq., of West Farms, Dutchess Co., N. Y. It must be a good bull that beats him. DENNIS KELLY, of Philadelphia, shows a very fine

four year old imported bull, and T. P. REMINGTON, of Philadelphia, DAVID CARRICK, of New Jersey, and several others, exhibit a number of superior animals in this class. On the whole, the show of Shorthorns is very good, but hardly equal, we think, to that at Boston last year.

Here we are among the Herefords, which, though not numerous, are good. W. H. SOTHAM, of Owego, N. Y. exhibits thirteen head of this excellent breed. Mr. S. evidently trusts to the intrinsic merits of the animals for obtaining favor with the judges and the public, for he has not "fitted up" his animals for exhibition, in the manner too often practised by some breeders. Of the excellence of Mr. SOTHAM's animals, we need only say he took the premium for the best herd, and other premiums, amounting in all to \$345. THOMAS ASTON, of Lorain Co., Ohio, exhibits a good bull, in very high condition. He takes the first premium of \$100. For sale, price \$500.

The show of Devons is large and good. The State of Maryland has the honor of sending a considerable number of very superior animals of this breed. The first and second premiums for the best herds, both go to Maryland; the former to W. B. DOBBINS, and the latter to J. HOWARD MCHENRY. The celebrated herds of C. J. WAINRIGHT and E. G. FAILE, of New York, are well represented, and come in for a share of the premiums. J. N. BLAKESLEE, of Ct., A. BRIDLEMAN, of N. Y., E. D. PARISH, of N. J., GEORGE MARTIN, J. P. JENKINS, G. B. BROWN, Penn., and several others exhibit good animals in this class.

The show of Ayrshires is not as good as last year. RAMSAY MCHENRY and JOHN MEERYMAN of Maryland, carry off nearly all the premiums. Mr. MEERYMAN's five year old bull, "Highlander," is a fine animal, a credit to his owner and the State. He takes the first premium.

Alderneys, or Jerseys, are out in full force, but it strikes us there are not as many animals, or of such marked excellencies as at Boston, last year. We would not have it inferred, however, that the animals shown here are inferior specimens of the breed.—They are really excellent. But the show of Alderneys at Boston last year, exceeded anything we have seen before or since in Great Britain or in this country. Maryland comes in for a good share of the premiums in this class also. J. HOWARD MCHENRY, of Md., takes the first herd premium, and R. L. COLT, of N. J., the second. The latter exhibits eight head of very superior animals. Here is a five year old cow imported by JOHN RICE, (we do not know his residence,) that, in our judgment, must be hard to beat. She is the best handler we ever saw, with skin and hair as soft as silk. We are glad to see this breed attracting so much attention, for, though they are not perhaps so profitable for the general dairyman, they are well suited for those who require a small quantity of rich milk for their own use, and are willing to pay for it. They certainly yield richer milk, and afford better and more highly colored butter than any other breed.

The show of grades and natives is very good.—Here is a four year old cow belonging to G. RIGHTON, of Lancaster, Penn., half Ayrshire and Durham.—We do not know that there is any particular advantage in the cross, but she is certainly a beautiful animal. This large, black, seven year old native cow, belonging to SAMUEL McALONER, of Lemon Hill, Penn., is a splendid animal, weighing 1814 lbs.

The show of sheep is the best we have seen in this country. Such South Downs as those of SAMUEL THORNE, THOS. BETTS, and JOS. COPE, cannot be too highly commended. These Leicesters of THOS. RICHARDSON of N. Y., and G. D. PARISH of N. J., are very good, while the Cotswolds of WM. REYBOLD, of Del., and Col. J. W. WARE, of Virginia, are an honor to their owners and the country. This pen of Oxford Downs, belonging to C. A. MURPHY, of Wilmington, Del., are well calculated to sustain the reputation which this recent breed of mutton sheep has attained in England. Fine woolled sheep are not numerous, but those shown are, almost without exception, of very high character. Here are several pens of beautiful Silesians,* belonging to GEO. CAMPBELL of West Westminster, Vt., and WM. CHAMBERLAIN, of Red Hook, N. Y. The former gentleman also shows several pens of Spanish, and the latter, excellent French Merinos. These French Merinos of DANIEL KIMBALL, of Rutland, Vt., are also very superior. There appears to be no Saxon Merinos on exhibition! Here are the celebrated Tartar sheep belonging to Dr. EMERSON, of Philadelphia. Their ears are very long and fine, the wool thin, long and hairy, legs long and fine, general appearance somewhat resembling an indiscriminate cross between a degenerated Leicester and Welch flock, that have been half starved and neglected for several generations. The mutton, Dr. EMERSON informs us is exquisite, and the sheep are remarkably prolific, for instance, a two year old ewe had three lambs in February, 1855, two ewes and one buck, and in the November following, two more, while the first two ewe lambs also had a lamb each, in November, thus making a progeny of *seven in nine months!*

There is a good exhibition of pigs, though Essex and Suffolks are meagrely and poorly represented compared to the Boston exhibition.

Here is a splendid Chester County sow, belonging to THOS. RICHARDSON, of West Farms, N. Y., very large, but rather coarse. The Penn. Hospital shows a Chester County hog, 19 months old, weighing 658 lbs. Here is a pen of "Chester Whites," belonging to T. WOOD of Remington, Chester Co., Pa., which are very good. JOHN MCGOWAN shows some pens of the various breeds.

The show of Implements and Machinery is the largest and best we have seen at any previous fair, though confined to a very few exhibitors. RUGGLES, Nourse, Mason & Co., of Boston, exhibit 175 different articles. P. MORRIS & Co., of Philadelphia show some 500 implements and machines. D. LANDRETH & Son, of Philadelphia, and many other well-known implement makers, also exhibit largely. Our space this month prevents us from particularizing.

There is a good show of fruit, seeds, vegetables, &c. Let us enter the tent. Here, standing like sentinels on the tables allotted to the smaller fruits, are some magnificent pumpkins, the largest weighing 200 lbs, and there, somewhat less, it is true, but still very large, are some "Haze Apples," and a little further on a plate of "Pound Pears," the heaviest weighing 27½ ounces, and the lightest 21 ounces. What magnificent potatoes these are, shown by Jos. VAN KIRK, Northumberland, Pa. They are seedlings from Mercers and Pinkeyes, and are the finest potatoes we have seen for some time. These Polish oats also, are very good, weighing 41 lbs., per bushel. C. M. HOVER, & Co., of Boston, make a fine display of pears, as does also Pres't WILDER, who does not, however, compete.

"The "Banquet" came off in a large tent on the ground, on Friday afternoon, and was well attended. President WILDER's address was exceedingly able, eloquent and appropriate. We shall endeavor to give a few extracts in a future number. The rest of the talking was singularly dull and uninteresting, with the exception of a felicitous address from the Hon. JOSEPH QUINCY, of Boston, and a most humorous one from Mr. MEREDITH, of Philadelphia. The former gave an interesting account of the great Exhibition in Paris, and the latter humorously contended that idleness, rather than necessity, was the mother of invention.

The exhibition closed on Saturday afternoon. The total receipts were over \$40,000.

NOTES ON POTATOES.

Of all the varieties of this valuable and indispensable esculent, none have maintained their character for early maturity, productiveness, and fine qualities for the table equal to the Mercers. They originated about twenty-five or thirty years ago, in Mercer Co., Pennsylvania, hence their name, "Mercer." Their introduction, however, is due to a man by the name of GILKEY, who grew them from seed, and they should inherit his name, "Gilkey." They have received various names in different sections of the country. In one section they are known as "Narshonnocks," in another "Chenangos," while in a third, "Messhannocks;" in this section "Blue Mercers."

We first obtained them for cultivation as early as 1830 or '31 of Mr. GRANT THORBURN, New York, at the tune of three dollars per bushel. If not the first, they were among the first introduced as far north as Albany. They were a rather long, rough looking tuber, skin whitish, seed end soggy, of a purpleish tint, and when cut square off, a narrow circle or ring of blue would be found; this blue streak rather detracted from their popularity; more, however, on account of the looks than from injury to their qualities. Notwithstanding they have suffered as much, or perhaps more, from the rot than any other variety, still they have maintained their reputation as an excellent potato for domestic use.

There is in this county a new variety, introduced by Mr. H. N. LANGWORTHY, called "White Mercers," from the fact of their having been obtained from the balls of the old Mercer. In quality they are said to be inferior to the Blue Mercer, and about equal to the early June.

At the late fair of the Monroe County Agricultural Society, we noticed on one of the tables, two lots of very large, white, smooth-skin potatoes, one labeled "Fluke," the other "Biscuit." They were evidently one and the same, and known in England as the "Fluke" variety, "a superior variety, much esteemed at Liverpool for its flat shape and fine qualities for domestic use, and for long keeping." The lot marked "Biscuit,"* exhibited by Mr. J. S. CLARK, of Greece, received that name from a committee on vegetables at the meeting of the Wyoming County Agricultural Society in 1855, and attracted great attention by their clear, smooth, white skin, and from their uniform shape and size. It bears late planting, yields well, and has never been known to be affected by the rot.

There were several baskets of another variety of very handsome looking potatoes exhibited at the fair, introduced into this section, called "Mexican." They are a white, smooth-skin potato, somewhat resembling

in external appearance, though larger, the "Lady's Finger," though with less eyes. They are said to have been brought from Mexico, as their name imports. They are said to produce well, but require a good rich soil, and should be planted early. We have found them excellent for baking, and not much inferior to the Mercers for boiling. C. N. BEMENT—*Rochester, 1856.*

* Since the foregoing was written, we have had an opportunity of testing their qualities for the table, and without hesitation pronounce them very superior, A, No. 1, "none better, if as good."

NOTES FROM NORTH-WESTERN OHIO.

MESSRS. EDITORS:—I send you a few lines respecting the crops in North-Western Ohio. Early potatoes will not be, or are not, anything to brag of; late potatoes are very good, especially on sand and prairie soil. At our County Fair (Erie) there was the most splendid lot of potatoes I ever saw, but were mostly late grown. Our corn crop will average better than was expected. We had quite an early frost, but it did not affect the corn or buckwheat.

I have talked with a number of farmers and find that their buckwheat has yielded more than they anticipated during the dry summer.

The extreme dry summer has extended thus far into autumn, and the probability is that we will have a good dry time for husking corn and digging potatoes, as well as threshing the remainder of the buckwheat. Many wells have failed in this section that have never failed before. We had an extraordinary dark day on Monday, the 13th. The morning set in very smoky, and soon was aided by a dense fog and misty rain which caused the candles to be lighted as if night was at hand. The clouds presented a curious appearance during the time of the darkness, looking as though you were examining a bright sky through a smoky glass. Smoke and fog have prevailed a great share of the time for a few weeks past, together with some very warm and some very cold weather.

I raised a lot of Pumpkins this year, and received the first premium at Erie County Fair on a fine lot that was raised in the following manner, to wit: one handful of leached ashes in the hill, (they were planted amongst corn,) on newly turned sod ground.—They grew to an unusual size, and great numbers on a vine. I received the seed for the same at the New York State Fair last year, called the Holland Sweet. E. WOOLVERTON.—*Milan, Erie Co., Ohio, Oct 21.*

REMEDY FOR SORES ON HORSES AND CATTLE.—Lime and lard, says a correspondent of the *Maine Farmer*, "are the best application to old, bad sores, of any kind, that I know, especially if the bone is any affected. Take good stone lime, slake dry, and sift through a fine sieve. Put the flour in a bottle, cork tight, and keep it in a dark place, from light and air, and it will keep good for years. Take one part of lime to three parts of lard, in bulk, and mix them well, cold, and apply a proper quantity to the sore twice a day, and cleanse well each time with soap suds. If the sore descends below the outward opening, it must be opened to the bottom, or it will not heal sound. If the bone be affected, the sore probably will not heal, and ought not to till the bone shall be healed. Sores healed under this treatment always heal sound. If fungus be in the sore, this ointment will clear it all out and keep it out."

PREMIUMS AWARDED AT THE N. Y. STATE FAIR.

We are indebted to B. P. JOHNSON, Esq., the able Secretary of the Society, for the official list of premiums awarded at the Sixteenth Annual Exhibition of the New York State Agricultural Society, held at Watertown, Sept. 30, and Oct. 1, 2 and 3, 1886. We give below some of the most important awards:

CLASS I.—CATTLE.

SHORT HORNS—Bulls.—Thomas Gould, Aurora, Cayuga county, best bull 3 years old and upwards, "Majesty," \$25; W. M. Bullock Bethlehem, Albany county, 2d best do, Prince of Wales, 15; R. G. Coffin, Washington, Dutchess county, 3d best do, Mortimer, 5; Enoch Marks, Camillus, Onondaga county, best bull 2 years old, Echo of Oxford, \$20; Francis M. Rotch, Morris, Otsego county, 2d best do, Omer Pasha, 10.

D. D. Campbell, Schenectady, best bull 1 year old, \$15; Gill & Brothers, Henderson, Jefferson Co., 2d best do, Belmont, 10. Amos F. Wood, Woodville, Jefferson county, best bull calf, Belmont, \$5; Joseph E. Orvis, Massena, St. Lawrence county, 2d best do, Barrington, Transactions and 3.

SHORT HORNS—Bulls, (Imported.)—Hungerford, Brodie & Converse, Adams, Jefferson county, best bull 3 years old and upwards, St. Nicholas, \$25.

John W. Taylor, East Bloomfield, Ontario county, bull Nigili, highly commended as a very superior animal.

SHORT HORNS—Cows.—O. Howland, Auburn, Cayuga Co., best cow 3 years old and upwards, Blossom 2d, \$25.

J. E. Orvis, Massena, St. Lawrence Co., heifer Beauty, 3 years old, and a 2 year old heifer very good animals, and worthy a premium should pedigrees be produced, which were not submitted to the committee.

Cows, (Imported.)—Hungerford, Brodie & Converse, Adams, Jefferson Co., best cow 3 years old and upwards, Lady Newham, \$25. E. Marks, Camillus, best heifer, 2 years old, 20.

DEVONS—Bulls.—Wm. Johnson, Geneva, Ontario county, best bull 3 years old and upwards, \$25; S. Burtis, Oaks Corners, Ontario county, 2d best do, 15; N. M. Dart, North Harspersfield, Delaware county, 3d best do, 5.

Jacob Brown, Varick, Seneca county, best bull 2 years old, \$20; Milton G. Norton, Gouverneur, St. Lawrence Co., 2d best do, 10.

E. G. Cook, Belleville, Jefferson county, best bull 1 year old, Grand Duke, \$15; Jacob Brown, Varick, Seneca county, 2d best do, 10; R. H. Van Rensselaer, Morris, Otsego Co., 3d best do, Mercury, 5.

C. D. Bent, Sterling, Cayuga county, best bull calf, Candy, \$5; R. H. Van Rensselaer, Morris, Otsego county, 2d best do, Mammon, Trans and 3.

L. H. Colby, Groton, Tompkins county, breeder of the bull which received the first prize, Silver Medal.

Bulls, (Imported.)—R. H. Van Rensselaer, Morris, Otsego Co., best bull 3 years old and upwards, Megunticook, \$25.

DEVONS—Cows.—Enoch Otley, Phelps, Ontario county, best cow 3 years old and upwards, Curley, \$25; R. H. Van Rensselaer, Morris, Otsego county, 2d best do, Lilly, 15; R. H. Van Rensselaer, 3d best do, Fancy, 5.

S. Burtis, Oaks Corners, Ontario county, best heifer, 2 years old, \$20; E. G. Cook, Belleville, Jefferson county, 2d best do, Fanny Forester, 16; C. D. Bent, Sterling, Cayuga county, 3d best do, Victoria, 5.

R. H. Van Rensselaer, Morris, best heifer 1 year old, Nonsense, \$15; C. D. Bent, Sterling, 2d best do, Prude, 10; Enoch Otley, Phelps, 3d best do, 5.

R. H. Van Rensselaer, Morris, best heifer calf, \$5; Enoch Otley, Phelps, 2d best do, Trans. and 3.

Cows, (Imported.)—R. H. Van Rensselaer, Morris, best cow 3 years old and upwards, Lady Lightfoot, \$25.

HEREFORDS.—A. & H. Bowen, jr., Oak Grove, Orleans county, best bull 3 years old and upwards, \$25.

M. C. Remington, Sennett, Cayuga Co., best bull 2 years old, \$20. M. C. Remington, Sennett, best bull 1 year old, \$15; A. & H. Bowen, jr., Oak Grove, Orleans Co., 2d best do, 10; A. & H. Bowen jr., 3d best do, 5.

A. & H. Bowen jr., Oak Grove, best bull calf, \$5; M. C. Remington, Sennett, 2d best do, Trans and 3.

M. C. Remington, Sennett, best cow three years old and upwards \$25; A. & H. Bowen jr., Oak Grove, 2d best do, 15; A. & H. Bowen jr., 3d best do, 5.

M. C. Remington, Sennett, best heifer 2 years old, \$20.

M. C. Remington, Sennett, best heifer 1 year old, \$15; A. & H. Bowen jr., Oak Grove, 2d best do, 10; M. C. Remington, Sennett, 3d best do, 5.

M. C. Remington, Sennett, best heifer calf, \$5; M. C. Remington 2d best do, Trans. and 3.

HEREFORDS—(Imported.)—George Clarke, East Springfield, Otsego county, best bull 3 years old and upwards, \$25.

The committee desire to bring to notice four Hereford grade cows, presented for exhibition only, by George Clarke, Esq., of East Springfield, Otsego county. They are a cross from the Native cow and the Hereford bull, so often repeated on the progeny as to leave those exhibited within 1-16th of being thorough-bred Herefords. They are extraordinary fine animals, and have arrived at a wonderful degree of fatness, although fed, as Mr. Clarke assured the judges, on poor pasture. We recommend a discretionary premium—Silver Medal.

AYRSHIRES.—E. P. Prentice, Albany, best bull 3 years old and upwards, Dundee 5th, \$25; Lyman R. Lyon, Lyon's Falls, Lewis county, 2d best do, 15; H. F. Humphrey, Brownville, Jefferson co., 3d best do, 5.

E. P. Prentice, Albany, best bull 1 year old, Duke, \$15. Hungerford, Brodie & Converse, Adams, Jefferson Co., best bull calf, \$5; E. P. Prentice, Albany, 2d best do, Dandy 6th, Transactions and 3.

E. P. Prentice, Albany, best cow three years old and upwards, Tibby, \$25; J. F. Converse, Belleville, Jefferson Co., 2d best do, 15. Hungerford & Brodie, Adams, best heifer 2 years old, \$20; Hungerford & Brodie, 2d best do, Flora, 10; E. P. Prentice, Albany, 3d best do, Maggie, 5.

E. P. Prentice, best heifer 1 year old, Peggy, \$15; Hungerford & Brodie, 2d best do, 10.

E. P. Prentice, Albany, best heifer calf, Dolly, \$5; Hungerford & Brodie, 2d best do, Trans. and 3.

AYRSHIRES, (Imported.)—Hungerford, Brodie & Converse, bull 3 years old and upwards, Kilburn, certificate as best bull, having received heretofore, first premium.

Hungerford & Brodie, best cow three years old and upwards, \$25. do best heifer 2 years old, \$20.

The committee in announcing the animals to which premiums were awarded, desire to call the attention of the Executive Committee to three imported Ayrshire cows, exhibited and owned by Messrs. Hungerford & Brodie, as beautiful animals of the kind. Discretionary premium recommended—Silver Medal.

ALDERNEYS, (Imported.)—E. P. Prentice, Albany, best bull 1 year old, \$15; E. P. Prentice, best cow 3 years old, \$25.

GRADE CATTLE.—C. Baker, Batavia, Genesee county, best cow 3 years old and upwards, \$25; Mason Salisbury, Ellisburgh, Jefferson Co., 2d best do, 15; J. W. Collins, Sodus, Wayne Co., 3d best do, 3. Gill & Brothers, Henderson, Jefferson county, best heifer 2 years old, \$20; Gill & Brothers, 2d best do, 20; A. F. Wood, Woodville, Jefferson county, 3d best do, 5.

Gill & Brothers, Henderson, best heifer 1 year old, \$15; Amos F. Wood, Woodville, 2d best do, 10; John Collins, Le Ray, Jefferson county, 3d best do, 5.

M. Salisbury, Ellisburgh, Jefferson county, best heifer calf, \$5; A. F. Wood, 2d best do, Trans. and 3.

NATIVES.—Austin Harris, Watertown, Jefferson county, best cow 3 years old and upwards, \$25; H. F. Humphrey, Brownville, 2d best do, 15; R. D. Murray, Watertown, 3d best do, 5.

A. M. Rogers, Watertown, best heifer, 2 years old, \$20. Truman Hungerford, Watertown, best heifer 1 year old, \$15; T. Hungerford, Watertown, 2d best do, 10.

H. F. Humphrey, Brownville, 10 ordinary dairy cows, Vol. Trans.

WORKING OXEN.—Hiram Converse and others, Jefferson county, best 20 yoke of oxen, \$50; A. B. Carter and others, Champlain, Jefferson county, 2d best 10 yoke of oxen from any town, 20.

Abner Fitch, Westmoreland, Oneida county, best single yoke of oxen, \$20; Mason Salisbury, Ellisburgh, 2d best do, 15; G. Clarke, Springfield, 3d best do, 5.

STEERS, Three Years Old.—Otley & Oaks, Phelps, Ontario Co., best yoke, \$10; Geo. Chamberlain, Ellisburgh, 2d best do, 8; Chas. B. Eastman, Woodville, 3d best do, Trans. and 3.

Franklin, son of Jeremiah Parker, first premium for training steers, Silver Medal.

STEERS, Two Years Old.—Charles B. Eastman, Woodville, best single yoke, \$10; Jas. F. Converse, Belleville, 2d best do, 8; Wm. L. Wait, Champion, 3d best do, Trans. and 3.

Training steers best, Wm. L. Wait, Silver Medal.

One Year Old—Datus Osmer, Rutland, Jefferson county, best single yoke, \$8; A. & H. Bowen jr., Oak Grove, Orleans county, 2d best do, 5.

Amasa N. Converse, 12 years old, Pamela, Jefferson Co., training yoke of steers best, Silver Medal.

Discretionary Premium of \$10 and a volume of Transactions, to John W. Taylor, of East Bloomfield, Ontario county, for two pair of unbroke yearling steers, very fine animals.

FAT CATTLE.—J. W. Taylor, East Bloomfield, best ox 4 years and under 5, \$10.

Henry Hopkins, Rutland, 2d best cow, 4 years, \$6.

J. W. Taylor, East Bloomfield, best steer 3 years old, \$8.

J. W. Taylor, East Bloomfield, best heifer 3 years old, \$8; J. W. Taylor, 2d best do, 3.

Discretionary—E. Corning jr., a prize of \$10, and Diploma, for a six years old Hereford cow, fed on meal one year—the best animal exhibited, the finest the committee have ever seen entered for exhibition.

FOREIGN CATTLE.—Wm. Davis, Toronto, C. W., best Short Horn bull 2 years old and upwards, Diploma and \$15.

R. Coates, Oakville, C. W., best Devon bull 2 years and upwards, Diploma and \$15.

H. A. Sandusky, Versailles, Ky., best pair of working oxen out o. State \$15; H. A. Sandusky, 2d best do, 10.

W. Roderick, Coburg, C. W., black Galloway bull, Dip. and 10.

CLASS II.—HORSES.

STALLIONS—For all work.—Truman Cone, Denmark, Lewis Co., best stallion 4 years and upwards, \$25; R. McNeal, Meridian, Cayuga county, 2d best do, 15; E. G. Wait, Antwerp, Jefferson county, 3d best do, 5; A. & H. Bowen, jr., Oak Grove, Orleans county, 4th best do, Youatt.

The Committee recommend that the Society award premiums to Messrs. Warren & Healey, of Canton, St. Lawrence county, for their stallion, which was accompanied by 6 or 8 of his colts, Silver Medal.

Also, to Edward Phelps, Hopkinton, St. Lawrence county, Small Silver Medal; Norman Dayton, Canton, St. Lawrence Co., Youatt; E. D. Jackson, St. Lawrence county, Transactions.

They being a fine lot of studs—but the Committee think that they should not be placed in the class of horses of all work, and recommended that such horses should be placed in a class for light and pleasure carriages, believing them not suitable for staging or heavy farm work.

MARES AND FOALS.—For all work.—A. Blount, Watertown, Jefferson Co., best brood mare (with foal at her feet), 4 years and upwards, \$25; Stephen Adsit, Rutland, Jefferson Co., 2d best do, 15; Lyman Jacobs, Rutland, 3d best do, 5; A. B. Carter, Champion, Jefferson county, 4th best do, Youatt.

Henry Ainsworth, Quaker Settlement, Jefferson county, Trans. **DRAUGHT.**—John G. Hermans, Fairville, N. Y., best stallion 4 years and upwards, \$25; Charles Peck, Van Buren, N. Y., 2d best do, 15; R. McNeal, Meridian, N. Y., 3d best do, 5; Anson Hungerford, Watertown, 4th best do, Youatt.

Discretionary.—Anson Hungerford, Watertown, best pair of mares for all work, \$10; H. L. Monroe, Rutland, 2d best pair horses, 5; W. D. Carter, Champion, 3d best do, Youatt.

THOROUGH BRED.—George W. Parish, Rossie, St. Lawrence Co., best stallion, 4 years and upwards, Colonel, \$25; Henry D. Rich, Watertown, 2d best do, Hamiltonian, 15; John H. Hawthorne & Co., Utica, Oneida Co., 3d best do, 3 years, Young Kimball Jackson, 10.

Three Years Old.—G. A. Childs, Malone, Franklin county, best stallion 3 years old, \$20; E. Warner, Canton, St. Lawrence county, 2d best do, 10; Thomas Cray, Potsdam, St. Lawrence county, 3d best do, 3; Pliny Monroe, Rutland, 4th best do, Youatt.

Jesse Stelling, Rutland, best mare 3 years old, \$20; Truman Hungerford, 2d best do, 10; Thurston Barker, Ellisburgh, 3d best do, 3; H. L. Pierce, Champion, 4th best do, Youatt.

Two Years Old.—George Benedict, Verona, Oneida county, best stallion 2 years old, \$15; W. Hungerford, Watertown, 2d best do, 10; Charles Wheeler, Canton, 3d best do, Youatt.

A. C. Pierce, Orleans, Jefferson county, best mare 2 years old, \$15; Wm. C. Baker, Watertown, 2d best do, 10; Leonard Loomis, Le Ray, Jefferson county, 3d best do, Youatt.

One Year Old.—Sylvanus Stroud, Lenox, Madison county, best stallion 1 year old, \$10; M. Craine, Westmoreland, Oneida county, 2d best do, 5; F. H. Kent, Hopkinton, St. Lawrence county, 3d best do, Youatt.

Discretionary.—John M. Cooper, Watertown, Jefferson county, 1 pair of bay matched 2 year old colts, Trans.

MATCHED HORSES.—For Road or Carriage.—Mr. Bostwick, Lowville, best pair of matched horses, 16 hands or over, \$15; Harvey Beals, Adams, Jefferson county, 2d best do, 10.

Erastus Corning jr., Albany, best pair of matched horses, 15 to 16 hands, \$15; E. Burrell, Salisbury, Herkimer Co., 2d best do, 10. Edwin Marsh, Henderson, Jefferson Co., best pair of matched horses, 14 to 15 hands, \$15; C. S. Clark, Oswego, 2d best do, \$10.

GELDINGS.—Chauncey Barrett, best gelding, \$10; Calvin Scripture, Watertown, 2d best do, 8.

SINGLE MARES.—Harvey Beals, Adams, best (gray) mare, \$10; J. Stears, jr., Watertown, 2d best do, (bay) 8.

SINGLE TROTTING HORSE, MARE OR GELDING.—In Harness.—Geo. White, Canton, best (brown) horse, \$10; J. B. Champion, Watertown, 2d best do, (sorrel horse) 8; C. C. Chadwick, Theresa, Jefferson county, 3d best do, 5.

Maj. M. R. Patrick, Sackett's Harbor, best trained riding horse for gentleman or lady, \$10; H. S. Bartell, Leyden, Lewis county, 2d best do, 8; E. H. Cole, Henderson, 3d best do, 5.

FROM OTHER STATES AND CANADA.—R. Coates, Oakville, C. W., best blood stallion 4 years and upwards, \$15.

A. C. Palmer, Charlotte, Chittenden county, Vt., best stallion horse of all work, 4 years and upwards, \$15.

Henry Batelle, Grafton, C. W., best brood mare of all work, 4 years and upwards, \$15.

Peter Arch Deacon, Toronto, C. W., best draught stallion of all work, 4 years and upwards, \$15.

W. H. Gardner, Morvin, C. W., a good 2 year old colt, Trans.

James P. Lake, Morvin, C. W., a good 3 year old colt, Trans.

SALT FOR HORSES.

This will perhaps cause some to laugh, as undoubtedly all farmers feed salt to their horses, but I know it to be the custom among a great many of the farmers and horse owners in my neighborhood, who never feed salt to their horses more than once or twice a week, and then they throw a handful to each horse which he will greedily devour on account of his being almost starved for salt, and it must necessarily follow that for the next half day or so he suffers greatly from thirst; at least such is the fact in some cases. Now to avoid all this, I will give a few practical hints which I have followed for some time, and I find that my horses hardly ever refuse a feed, and are always well and hearty. I have a small box placed upon one side of my feeding room, with a lid fastened to it, in which

I keep a constant supply of salt, which will be found much more convenient than to have the salt in the house or some out-of-the-way place, which is often the reason of neglecting to salt horses regularly. I give my horses salt every time I feed them, but I do not throw a handful on. I mix about a teaspoonful with each horse's feed while I continue to give the same kind of feed, and when it becomes necessary or convenient to change the kind of feed I then apply a little more for the first and second time, as I think it a sure preventive of the cholera, &c. One of my neighbors recently lost a mare in this way: he having occasion to change feed, and not adding salt, the horse became costive, which disease very often proves fatal to that most noble of animals. When he related to me the supposed cause of the disease, I remarked that I thought if he had applied some salt it might have prevented it; he readily confirmed my opinion, and also remarked that he applied a handful of salt at the second feed, but it was then too late, for the horse would eat no more. I have also frequently mixed an equal quantity of clean wood ashes with my salt, and think it very good for horses. The above rule will also hold good for other animals, such as cattle and sheep, as well as for the horse. If this should meet the eyes of some who have not yet followed the above rule, I would say to all such, try it, and make yourselves satisfied, as it will cost no more than it does to salt once or twice a week. This being my first attempt to write for the public press, I will now close. More anon. A YOUNG FARMER.—Berlin, Somerset County Pa.

THE CHINESE SUGAR CANE.—The *Western Farm Journal* states that the Chinese sugar cane has been used this season for fattening cattle in Warren Co., Ohio. The cattle appeared to be very fond of it, and are said to have gained well, though it may be mentioned that they were fed with a peck of meal each, per day, in addition to the "sugar millet."

The same paper states that Gov. HAMMOND, of South Carolina, in a letter to Mr. BUCHANAN, of Cincinnati, speaks of this plant as follows:

"I had half an acre planted, and only ground enough to try it. It will do here, and it will do also in your climate at Cincinnati. It will mature sooner than corn, and in any climate suited to Indian corn. A fine syrup can be made of it, at a cost of eighteen to twenty cts. per gallon. On an acre of land prepared as you would work it for sugar beets or carrots, you can, with less labor than used for corn, grow enough millet to make five or six hundred gallons of syrup. You can grind and boil from three hundred to three hundred and fifty gallons of juice per day, producing about fifty gallons of syrup. I have not tried it for sugar, and I only desire to save some \$600 or \$800 annually, that I expend for molasses for my people. It can be kept for grinding. I think it likely to compete with the sugar cane of Louisiana. I think it is particularly valuable in your region, and hereafter I will give the particulars of my experiment if you desire it."

SANDFORD HOWARD, of the *Boston Cultivator*, cultivated this plant last year, and his experiments "proved the practicability of producing it in Massachusetts;" and he suggests that it would probably be more useful as a forage plant than for producing sugar and molasses; an opinion which the above results sustain. We shall be glad to hear from any of our readers who have experimented with the "sugar millet."

NOTES FOR THE MONTH, BY S. W.

FEMALES ON HORSE BACK.—It has been noticed with regret that the accomplished editor of the *Genesee Farmer* demurs to the propriety of having our fair *equestriennes* admitted as a part of the show of animated nature at a rural fair. How strange that a gentleman who has such a passion for animal and vegetable creations as to call an Essex pig beautiful, a Leicester ram splendid, a Short Horn superb, and a horse the *ne plus ultra* of equine grace and muscular development, should be so obtuse or indifferent to the mentally trained physical display of the higher order of animated nature, as to debar our fair ones from a little outside exercise, or display, if you please, on horse back at our rural festivals! With no better reason, methinks he might forbid his cherished Pomona to display there "her kindly fruits of the earth," and Flora her exquisite fragrant decorations, which alone give to the imagination the crowning graces of the vegetable kingdom, as our fair, blooming specimens of humanity should give the crowning aesthetics to the animated world!

INDIAN CORN.—VIATOR, in the last *Farmer*, asks why it is that early planted corn "sets and matures more ears and better, than the later planted, which matures the same sized stalks and leaves?" The fact is, to give the maximum cereal yield, corn must have its stinting season in May, so that the long, hot days of June fall upon the plants only after they have gained strong roots; then you will remark how much faster the early planted, and even sickly looking corn will go ahead of those weaker rooted plants that have just appeared above the surface; now, if July is hot and dry, the late planted corn takes its stint, while the now tasseled earlier planted only laughs and luxuriates in a drouth, forming its ears before the long, cool nights commence. After the middle of August, if the nights are cool, corn if not filled, matures slowly, and after the middle of September, except in glazing, its progress is imperceptible. The cause of the failure of corn to mature, is because the temperature falls to 45° or lower, almost every night. Hence the importance of planting corn early; no matter if it is a little singed by late frosts, it is growing at the root. Corn is a plant designed by nature to grow fast only in the longest and hottest days; heat is of more importance to it than moisture, particularly after it is in tassel. In the equatorial regions, where the days are only about twelve hours long, and the nights are cool, the little Guinea corn only can be grown. In fact, it is only in the United States that Indian corn finds its true indigenous soil and climate.

I have some late planted sweet corn, the ears of which have been *in statu quo* nearly a month. Since the first of October the unusually warm days and nights for the season, have partially filled a few ears fit to boil; but the husks are drying, and farther growth is at an end. When I hear a farmer say, "I shall have a good crop of corn if the frost only keeps off," I set him down as one without experience in the premises, or as one who never had any vocation for his great calling. It is true that frost nearly destroys the edible value of the fodder, but it only marks those ears for the grave that are already past vitality.

CORN STALKS AS FODDER.—That farmer who cuts up and stacks his corn as soon as it is well glazed, will save as much in quantity as in the quality of his corn fodder. Corn that stands uncut until the frosts

of October approach, loses much in leaf, and nearly all the saccharine in the stalk; the stalks of the sweet corn, if cut up and kept from fermenting their juices, will be eaten by cows with as much avidity as the leaves; those animals, more especially, that are fed on still slop, as the sugar of the stalk is the equivalent for that which is decomposed and taken from the slop at its vinous fermentation to form alcohol. I take it that the full value of the stalk of Indian corn, when properly cured and saved, has as yet, rarely been ascertained, and never more than half estimated.

FALL PLOWING.—In the last *Farmer*, one of the pattern farmers of little Seneca, JOHN JOHNSTON, advocates hauling out and spreading manure early in the fall, so that the grass growing up through it may be an addition to the organic matter to be plowed under in the spring. I would ask him if a heavy soil like his own was thus plowed late in the fall, or in early winter, before the ground is much frozen, so that it would have the benefit of the disintegrating effects of the frosts of winter; it would not be better than to wait and plow under the same manure in the spring?

TRANSPLANTING EVERGREENS.—Until of late, it has been supposed next to an impossibility to transplant that beautiful evergreen the Hemlock (*Abies Canadensis*) with any chance of success. Down east they never fail to live and thrive when the following process is followed: Go into a thicket of young hemlocks in swamp or upland, and with a sharp spade cut off all the large roots two or three feet from the trunks of such small trees as are proper for transplanting; then let them stand one or two years longer, by which time the large shortened roots will have put out a large growth of short fibrous roots; then take them up with as much earth as possible, place them in good well prepared soil, and not one in twenty will fail to grow well.

A writer in a late *Farmer* is in favor of transplanting large pines; but those he alludes to, which were removed at so much cost and care, might have been distanced by trees less than two inches in diameter, if we may judge from such trees now growing in this vicinity. When the trunk of a tree is so much out of proportion to its roots, the growth must be very slow for many years. Whereas, a small tree, even of the evergreen species, overcomes this impediment in a comparatively short time, and makes a rapid growth in a congenial soil.

JOSEPH WRIGHT, of this place, has just returned from the United States Fair at Philadelphia, where his matched blacks, "Tippoo Brothers," took the \$100 first prize for matched trotters in harness, distancing a span of New York city gray mares, more than 25 rods; they trotted the long mile, turning eight corners, and came in in 3, 7. The next day the gentleman who owned the grays wanted to have the trial over again; as the award was made, Mr. WRIGHT would not consent to it; but a friend of his offered to bet on the blacks against the grays, on a wager of \$5,000; but the New York gent demurred to the largeness of the stake, then it was reduced to \$1,000, when he backed out! These same Tippoo colts took the highest prize at the U. S. Fair last year at Boston. Mr. W. is of opinion that they can trot a straight mile in 2.50. On the Philadelphia course they took the track from outside before they had gone thirty rods. It is the opinion of the knowing ones that the city grays step too high and work too hard to make

the best speed. The other two span who made up the full match of four on the course were badly distanced.

It is the opinion of those gentlemen from here, who attended both the Boston and the Philadelphia national fairs, that the *exposition*, taken all in all, was alike exceedingly creditable to both places, and nearly equal in magnitude. But in the order and discipline, and in the tidy, quiet, efficient, man-of-war fashion in which every regulation was carried out, the Bostonians rather took the palm. S. W.—*Waterloo*.

P. S.—I wrote you that JOSEPH WRIGHT had taken the highest premium for matched trotters at the Philadelphia Fair, but it appears that speed was made a secondary consideration in the programme of awards; the competition being restricted to the style and beauty of the pair. One of the judges, W. H. HART, averred that Mr. WRIGHT's Tippoo's "were decidedly the best pair of matched horses on the ground for *use and speed*, and that there were no horses there fit to compete with them." But as speed was not the consideration, the committee refused him the first premium. It is also admitted "that the pair of horses that received the first prize could not trot a mile in four minutes, and would not bring under the hammer, one-fourth the sum of Mr. WRIGHT's." S. W.

WOODLAND PASTURES PROFITABLE

TEN or fifteen acres of woodland pasture is in the estimation of some farmers an indispensable acquisition to their farms, especially if the timber is second growth, which is preferable—the branches being nearer the ground, producing a cool shade in hot weather, which is a welcome resort for cattle in the heat of summer; and as a general thing the feed does not dry up so soon as in open pasture, and is usually sweeter. We do not, however, maintain that too much shaded pasture is really of greater benefit than that where the sun's rays can readily penetrate; yet we do say that where the season is as dry as this has been, the woodland pasture affords the greatest quantity of feed, and that of a better quality than that obtained from more exposed situations. Such has been our experience.

Nor do we consider an occasional maple, beech or elm, objectionable in every lot on the farm; yet how often we see every tree which comes within the boundary of the fence cut down, under pretence that they shade the crops. Suppose they do,—they are nature's ornaments, and they greatly add to the beauty of the farm, as well as to its value; and the injury they do to a crop is comparatively small, if we consider them beneficial both for shade and ornament. Departing from their usefulness in decorating the farm, their shade for cattle, the pleasing prospect they afford when viewed in groups or standing singly here and there,—we would ask what is there that will set off a humble cottage to better advantage than a row of thrifty, well planted locust or elm trees decorating its front?—or what is there that adds more to the beauty and elegance of a stately mansion, than their presence? Surely, to the lover of the beautiful they are indispensable. Therefore, plant trees about your house; adorn your streets with them; and you will never regret it, even in the sale of your property. W.—*Mich.*

WHEAT AND CHESSE ONCE MORE.

MESSRS. EDITORS:—In the two last numbers of the *Farmer* I find the question of "Wheat vs. Chess" alluded to and the conclusion arrived at that wheat does not and cannot produce chess. I am compelled with equal assurance to affirm that wheat can and does produce chess, for the reason that I have seen both grains grown upon the same stalk and upon the same head. Some years since, while residing in the town of Turin, Lewis Co., N. Y., as I was reaping wheat, I discovered in the standing grain a small quantity of chess attached to one of the wheat heads, which led me to make a close examination, and I found, by pulling up the stalk containing the chess, that it was one of three stalks growing from the same root, upon each of which there was a well filled head of wheat with the exception of one kernel about the middle of one of the heads, and in the place of that one grain there was a branch of chess two or three inches long, bearing seventeen kernels of chess. The head of wheat was otherwise so perfect that even the chaff or bowl that should have covered the wheat kernel encircled the chess stem at its root, or where it was attached to the head. And if you, Messrs. Editors, should think the above brief note will be of any service to your readers, you can use it as you please. LEWIS HIGBY.—*Wattsburg, Erie Co., Pa., Sept. 27, 1856.*

REMARKS—The fact above stated is not new. We have had several such ears of wheat with chess growing out of them, sent to us, and in the *Genesee Farmer* for November, 1850, will be found an exact representation of one of them furnished us by a farmer in Williamson, Wayne Co., N. Y., and which he thought demonstrated that wheat could turn to chess. Appearances certainly favored the idea; but on a close examination, and on removing one grain near the junction of the chess with the wheat, and bending down the chaff, the end of the chess stem could be readily perceived, and on touching it the head of chess moved, showing that there was not the least connection between the wheat and chess. The chess probably had become entwined around the wheat while the ear was forming, and had been secured there by the growth of the grain and chaff. When ripe, the stem of the chess would easily be broken off in cutting the wheat. Several such cases have come under our observation, and in every instance we have found that the chess was not growing out of the ear of wheat but simply twined round it.—[Eds.]

MANURE FOR WHEAT SHOULD BE APPLIED NEAR THE SURFACE.—A correspondent of the *American Farmer* applied the same quantity of manure to two acres of wheat; on one acre he plowed it in at the first plowing eight or ten inches deep, and covered the seed afterwards with a gang plow. The other acre was plowed the same depth at the same time, without manure, and at the time of sowing the seed the same quantity of manure was spread on the surface, and seed and manure plowed in with the gang plow. The latter yielded *one-fifth more* than the former.

THOROUGH drainage, if practiced in connection with deep tillage, would frequently double the value of the land over and above the cost of the work in effecting the drainage. Let all farmers look to this, and awaken their minds to its importance.

REMINSNCES OF THE EARLY DAYS OF THE GENESEE FARMER.

"We have great pleasure in publishing the following letter from N. GOODSSELL, Esq., the FIRST EDITOR of the *Genesee Farmer*. Our readers will be glad to learn that he still takes a fatherly interest in the *Genesee Farmer*, and has promised to become a frequent contributor to his pages.

TO THE EDITOR OF THE GENESEE FARMER. — *Sir*: Please accept of my thanks for your favor of the first nine numbers of the second series of the *Genesee Farmer*. Although I have long been a stranger to this publication, and have known very little of the success which has attended it, or the manner in which it has been conducted, yet the sight of the heading alone calls up many reminiscences of circumstances which attended the first introduction of this paper to the public.

Twenty-five years ago the first of last January, I commenced at Rochester the publication of the *Genesee Farmer*, under circumstances which would now be considered insurmountable obstacles. I was induced to undertake the work by several reasons: *First*—From my intimate acquaintance with the soil and climate of Western New York, and the beneficial influence which Lake Ontario had upon the temperature of those counties bordering upon it, I became convinced that there was no locality in the United States, in the same latitude, that was so favorably situated for the raising of all kinds of fruit common to northern latitudes, and for agricultural pursuits generally, and that this region would inevitably become the *Fruit Garden of the Northern States*. *Secondly*—Rochester being situated near the centre of this favored region, at that time bid fair to become the leading business town, and had then a population numbering about ten thousand. The agriculturists and horticulturists of this section had arrived at that stage when they began to feel the want of a medium of communication, through which they could have an interchange of ideas appertaining to the several branches of business in which they were engaged.

At that time, I think, there were but two agricultural papers published in the United States,—one at Boston and the other at Baltimore, and neither of those were much known in Western New York. In short, agriculture and horticulture were then in their infancy, compared with the present day. There had been but few books upon these subjects published, and an agricultural library, or its utility, was little dreamed of by the farmers. Very few societies for the spread of knowledge in those departments had been formed. Contributors to an agricultural and horticultural journal were few and far between; those engaged in these avocations did not feel sufficient confidence in themselves, to lay before the public the results of their own experience; and as the *Genesee Farmer* was commenced as a weekly paper, it was very difficult for the editor, having only his own experience to draw from, to fill its pages with matter sufficiently interesting to create much excitement in the public mind. How changed the scene! What progress in the last quarter of a century! Agricultural papers are now printed in the different States, and all our bookstores furnish works on scientific agriculture; farmers have become well informed in all that appertains to their profession, and many of them

are not only prepared, but take pleasure in furnishing the results of their own experiments for publication, for the benefit of their neighbors. When we consider all those circumstances which have so contributed to this wonderful improvement in agriculture and horticulture, and how much of it has been effected by the publication of journals like yours, how can any reasonable farmer withhold that small sum which is required to enable you to publish the *Genesee Farmer*, which is so directly connected with, and has been so instrumental in their own prosperity?

New Haven, Oct. 10, 1856.

G.

AMERICAN SEED IN ENGLAND.

A correspondent of the *London Gardener's Chronicle* asks, how is it "that flowers raised from seed grown in the United States, (the sunflower and some of the mallows, for instance,) grow to two or three times the size of plants raised from English seed in the same garden, even if that English seed has been raised from plants grown from American seed. For instance, the sunflower grew 10 feet, and the mallow 15 feet high in my father's garden, when raised from American seed; but when these robust plants ripened their seed, and this seed was sown again, the plants of the second generation did not grow more than 5 feet high. * * May it not be desirable to get our seed wheat from America?"

We should have been glad to have seen an answer to this question from Dr. LINDLEY; but he publishes the article without comment. We would suggest that the reason why the sunflower and "some of the mallows" do not grow as well from English as from American seed is that our dry, hot climate is better adapted for the perfection of these plants than the moist, cool climate of the British Isles. The science of physiology and practical observation alike would lead us to suppose that plants produced from seed raised in a climate well adapted for its growth, would be finer than plants raised from seed grown in a climate where these plants mature only under the most favorable circumstances, if at all. The English climate is better adapted for the growth and perfection of the broad or Windsor bean than the climate of this country; and it is a well established fact that, although the Windsor bean can rarely be grown in this country with success, seed imported from England produces a far better crop than that raised here, even though the American seed is as large and as perfectly matured as that grown in England.

It follows from these considerations that we should obtain our seed from those countries where the plant naturally attains its greatest perfection. As the English writer we have quoted above suggests, it might be worth the English farmers' while to get their "seed wheat from America;" for there can be no doubt that our climate is better adapted for the perfect elaboration of wheat than that of England, as is also that of Canada West, Australia, the countries on the borders of the Black Sea and some other parts of Europe. The same may be said of red clover, which perfects its seed in England with great difficulty, while here it can be raised in great perfection without any trouble. This fact may throw some light on the "disease" termed "clover sickness," so prevalent in England, and which is unknown in America, a disease which the investigations of scientific men and the observations of practical farmers have alike failed to discover the cause or point out a remedy.

On the other hand, barley attains a more perfect growth in England than in this country, and it is not improbable that we could raise better crops from English seed than from that grown here. It would be necessary, however, to get those varieties which experience has shown to be most suitable to our climate—and these may be those which are held in least esteem in England.

With horticultural plants the principle is susceptible of very extensive application, and the rapid intercommunication of modern times, and our intimate commercial relations with every nation on the globe, afford unparalleled facilities for carrying out such a system of exchange. A bright future awaits the seed-growers of this country. It is true that at present they do not raise seed enough to supply the home demand. In fact an immense quantity of seed is annually imported from England and France—and this of those kinds which can be grown to greater perfection in this country than in almost any other.

"MANUFACTURED MANURES."—GOOD EVIL SPOKEN OF.

JOSEPH HARRIS, ESQ.:—On reading the first page of the *Working Farmer* for October, we had certain lines of SHAKESPEARE very forcibly recalled to our memory—those, namely, in which he speaks of some of the effects of an evil conscience, as follows:

"Thrice is he armed who hath his quarrel just;
And he but nake I, though locked up in steel,
Whose conscience with injustice is corrupted."

It appears that a communication was published in the *Country Gentleman* of September 18th, with the caption above given in quotation marks, one object of which was to thank the editors of that paper for the very valuable services they have, at different times and on sundry occasions, rendered to the farming community in exposing some of the frauds and impositions which have been attempted to be put upon them by *professed* friends. This expression of the gratitude of many farmers for the valuable services which *you* have been among the foremost in rendering, seems to have disturbed the conscience and feelings of the editor of the paper first named, and to have pierced him in a very tender spot. He seems to have felt this vote of thanks for your bold and public spirited exposures of certain humbugs and impositions [which have been attempted, as if it had been an arrow shot at him. But your readers will best understand the noteworthy items both of the original vote of thanks, and of the strange remarks, betraying plainly a wounded conscience, which that vote or offering of thanks has extorted from the individual referred to, if you will submit to them first the one and then the other of these articles.

We write to you at this time to solicit your attention to the vote of thanks, and to the reply made to it or notice taken of it in the *Working Farmer*, lest your contempt for the editor of that paper should tempt you to pass his present attack in silence. You must be well aware that *you* must have been prominently in view in the letter of thanks which lately appeared in the *Country Gentleman*; and it is just as well known to the most of those who will read the remarks of the wounded manure manufacturer, that it is *you* whom he is attempting to asperse, and *you* to whom he ascribes far different motives for your exposures of rascally frauds, than those to which we believe you justly and gratefully entitled. We are

among the number of those who give you credit for the most honorable motives in the services you have rendered to the whole fraternity of American farmers and planters in saving them from being robbed and plundered, and we feel *indignant* at any attempt made to rob you of the honor, the admiration and the gratitude to which such services, both in the columns of the *Genesee Farmer* and of the *Country Gentleman*, do very justly entitle you. We cannot bear to have your good evil spoken of; and though you may be very reluctant to have any more to do with one whose character—now generally notorious—but slenderly entitles him to any notice, we think it might be well to point out the malignity, the sophistry, and the calumny of the present attack. We would like to have you show that there could not be any motive that could lead you to undertake the unwelcome task of exposing schemes of fraud, as you have boldly and fearlessly done on several occasions, save the hope of doing good to others by saving them from dangerous and despicable impositions. Vindicate your title to our gratitude, which your calumniator would flich from you; let not your good be evil spoken of; and then, let him of the sore and wounded conscience "go to his own place." Yours, truly,

OCCIDENTALIS.

REMARKS.—We exchange with the *Working Farmer*, but for some reason or other the October number has not been received. We are, therefore, in blissful ignorance of the aspersions cast on our character by the "Man of Phosphates, editor MAPES," in the article referred to by our correspondent. Had we seen it, however, we should, as he suggests, "be tempted to pass his present attack in silence." A man who would endeavor to palm off on the agricultural community a worthless article under the name of "Chilian guano," and which his circulars represented as coming "from the coast of Chili," while it was manufactured in his own factory on his own place, near Newark, N. J., cannot expect to receive that attention to his real or supposed grievances which we gladly render to any respectable manure manufacturer. True, he is a brother editor, but when an agricultural paper is used simply for the purpose of selling the editors' worthless manufactures at a high price, under false names, he is a disgrace to the profession, and a stink in the nostrils of every respectable journalist.—[Eds.]

EFFECTS OF UNDERDRAINING.—It is well known that where water is stagnant in the soil, atmospheric air does not penetrate, and it is likewise known that the roots of plants cannot thrive without this element; but the land having been divested of its superfluous water, the air rushes in and supplies its place, converting noxious ingredients into wholesome food for plants. The roots follow the air, and appropriate such food as air and water have rendered fit for them. Secondly, plants are always actuated by heat up to say 75°, and two or three degrees is very beneficial to most plants, that is, two or three degrees above the general warmth of the soil; this draining will effect, by carrying down the warm showers and warm air into the soil; besides, where a large district is drained, the surrounding atmosphere becomes warmer and more congenial to the health of plants. Thirdly, rain, which before draining was the bane of this land, is now become one of the most beneficial elements in its culture, carrying down to the roots and dispersing through the soil ammonia and other elements of fertility.

IMPROVEMENT OF SOILS BY SCIENCE.

(Continued from page 303.)

I HAVE shown you how "Farmer Now" managed his farm affairs for the short term of three years, and we will now look at the improvements of "Farmer All-the-time," on his *fifty acres*, during the same period.

While the first plowed in the same manner as he had done for years, the other plowed from three to five inches deeper; the trouble attending this deeper plowing is repaid by an average over that of the crop of the farm in former years. Instead of selling all his surplus hay or grain, he either purchases more stock to consume it, or takes in stock to feed at a reasonable recompense, thus keeping a large share of the nourishment on the farm, and not being able to purchase lumber to build new sheds for his stock, he cut a quantity of wild grass and cornstalks for the purpose of covering his old sheds and for bedding.—"Farmer All-the-time" is very careful not to have any of the manure wasted or taken off the farm; it is consequently kept under the sheds until wanted for use, when it is hauled out upon the land and immediately plowed under. The manure which he purchases of "Farmer Now" for one-and-sixpence per load, he finds far less valuable than his own, it having lain in the yard exposed to the deteriorating effects of the fall and winter storms, but still it turns him a large amount of *clear profit*. The second year he manures the poorest portion of the farm, well, and seeds it down with Timothy or clover, leaving only a little more than half of his farm for cultivation, and this his former labor of the whole farm is bestowed upon. Wheat bringing a dollar and a half a bushel, he finds it will be profitable to buy a quantity of guano to use upon his wheat land.

In the spring of the third year, desiring to plant a field with corn which has lain in grass for years past, he has it plowed about ten inches deep the fall previous, that the winter frosts may kill all the worms and insects that might otherwise injure the crop, and having a little spare time and *change* during the winter he purchases and hauls upon the same land a quantity of leached ashes, which is thoroughly harrowed in the soil before planting. The rest of his time he fills up during the winter by hauling up his summer's wood, and some rails where they will be necessary to repair the fences in the coming spring.—The third year, his neighbors all remark as they pass his farm, "what a remarkable difference there is in the appearance of this farm now and three years ago; while the crops also exhibit a favorable change in their appearance." According to the amount of grain used, Farmer All-the-time raises great crops with less expense than all the neighbors round about him. His cattle, &c., are all well cared for and well sheltered from the cold and storms, and all the "Farmer Nows," as they pass by, say, "we never saw such a lucky farmer as "Farmer All-the-time" is; luck is *always* on his side."

By careful attention to his business, he has now nearly doubled his former crops, and *some* are more than doubled. The value of his soil has been materially improved by scientific work and general observation. He is a great agricultural reader. The *Genesee Farmer* is a favorite journal of his, and he also reads the *Ohio Farmer* and *Albany Cultivator*, which were awarded to him as premiums at his coun-

ty Fair. I might ask what farmer might not improve his farm by following the advice of such papers or journals?

"Farmer All-the-time" continues his course of farming from year to year as before, adding improvements where they are suggested, until his farm has now become a "fertile spot" amongst the neighboring farms.

I need make only a few more remarks of "Farmer Now's" success. You all know his shiftless character, his improvements and experiments all failed for want of being thoroughly executed, and he has added another fifty acres to his farm and the labor of the first fifty is now extended over the whole, while he scarcely raises enough to pay expenses. He resolves to sell out, goes to "Farmer All-the-time" and offers his farm to him and receives for an answer, "don't want it; I have got land enough. When my present farm is worn out, I have got three below this which I will bring into use. I refuse to sell mine because of its value which I have given by *improving its soil by science*. Go home and do the same by yours, and you need not want to sell it. EDWARD WOLVERTON.—*Milan, O., Oct., 1856.*

"I MEANT," "OH BUT."—"I meant" to have written this for the October number of the *Genesee Farmer*, but to you, at least, it is unnecessary for me to explain. "I meant" to call the attention of many of your readers to this very common phrase. It is often used to repair, as best it may, damages from neglect; as for instance, that plow which had lain all winter where I was shut off from plowing by the frost, last fall, and the first round this spring the beam gave way. "I meant" to have housed it, but I didn't find time without going in a storm, so the plow was left frozen fast until loosened by thaws, and then the beam was weakened to the extent of six shillings, besides the other damages arising from exposure; and so it goes. "I meant" to have laid up those rails which had got thrown down adjoining the pasture before the cows got into the cornfield. "Oh but" I neglected it until the cattle and horses have destroyed not less than five dollars worth; and all because "I meant" to have attended to this matter in due season, and should have done so except for this "Oh but."

Now, what I have to say about this matter is, in short, now is the time to lay that rail up, or get the hammer and nails and repair the fence, or house the implements; for if we put it off with an "Oh but," we shall suffer a greater loss than we at present imagine. I know that had I taken one half hour last fall, I should have been six shillings better this spring; and many times through life I have lost greater sums, because I did not attend to these little things in season. When I see a scythe hanging all winter on a tree, I am forced to believe that the owner "meant" to have got it under cover, and now excuses himself with "Oh but." D.—*Gates.*

SUMMER FALLOWING.—One of the purposes served by fallowing, is the destruction of weeds, converting them into manure; and another is the absorption of ammonia from the air. It is quite certain that, by frequent stirring, the soil is rendered much more fertile, not only by the absorption of ammonia, but also by the ready decomposition of substances that would otherwise have remained insoluble.

SUGGESTED ITEMS—No 2.

EDS. GENESEE FARMER:—Your October No., shows that you kindly accept my batch of "Items," so I turn over its leaves, pen in hand, to jot a few more for you.

GRATEFUL SOILS.—The anecdote of Mr BENNET's "poor, but grateful" soil, is a good one, and characterizes much of the soil in this country. It is generally *grateful* for good treatment, and will do its best however cared for. Did you ever notice that, the poorer a man's land, the more time he has for running about—for politics—and the hundred ways of "killing time," which a good farmer never needs to practice—always having abundant employment at home.

STOCKHARDT'S LECTURES.—As far as I am a judge of Agricultural Chemistry, STOCKHARDT's *Chemical Field Lectures* is a volume well worthy the commendation bestowed upon it by yourself and Dr. LINDLEY. No farmer can read it without deriving benefit therefrom—it will set him to thinking, at any rate, and thinking of improvements he may make in the management of his farm. I see it in the list of works you advertise for sale, and I advise those in want of a good Agricultural Chemistry to send you one dollar and receive the work free of postage, by return mail.

FALL MANURING.—If I had seen Mr. JOHNSTON's letter on manuring grass land intended for corn, the previous fall, a little earlier, I would have tried the experiment, for it strikes me favorably, though with you I am yet to be convinced that it is the most *economical* application of barn-yard manure. As good corn as I ever saw was on clover lay, manured with long or green manure immediately before plowing in the spring; and, though the season was dry, the corn roots did seem to find and use it, and that extensively. I believe we ought to manure our meadows occasionally, and that it should be done in autumn is evident. How would it answer in winter?

TURNIPS IN ENGLAND.—An item in Mr. SKIWING's employing 150 acres of land to grow turnip seed, for his own use, strikes me as intended for "the marines." How many thousand acres of turnips does Mr. S., now, pray tell? Or does he use the seed to supply the country at large? [That is what was meant.—Eds.]

NATIVE COWS.—However it may disagree with the theories of breeding, there is a great deal of truth in the remarks of "Conservative," on this subject.—There are a great many good native cows, and a great many "blooded ones" which are inferior milkers.—More care and study should be employed to improve both races. If a farmer has good cows, let him give them good care and pay proper attention to all their wants—if he has poor ones, let him get rid of them as soon as possible.

NEGLEY'S SEEDLING CUCUMBER.—"W. T. G.," finds this much lauded variety worthless. I cannot say I have done much better. The cucumbers are generally bitter, though of tolerably fair appearance. In common gardens, the season has been too dry for good vines—it has been difficult to keep them alive even with frequent watering, in our vicinity.

STATE AND COUNTY FAIRS.—Are you not tired of visiting so many Agricultural Shows? It is much harder work than it is to read about them. They are getting to depend for their attractions very much on

"trotting matches," "trials of speed," and "lady equestrianism," none of them particularly Agricultural. Town Fairs are becoming more common—their idea is a good one—and could we have such in every neighborhood, it would tend largely to the practical improvement of farming. B.—*Niagara Co., N. Y.*

SENECA COUNTY (N. Y.) FAIR.

THIS was undoubtedly the great County Fair of the season; but every thing else, however noteworthy, was cast into the shade by the extra large show of fine horses, and the trotting exercises which, with the racing, occupied the best part of the last two days. The Syracuse horse Terror was the fastest single trotter, compassing the mile in 2.39. Wright's Tippos was the fastest matched trotters, time 2.55. They did the work gracefully, without any of that irregular muscular exertion which disfigures so many fine horses when urged to rapid motion. The only thing that marred the interest of the trotting was the very little training some of the finest animals had received. Beautiful as they were to look upon in repose, half the charm was gone the moment they were put to their greatest speed; while on the other hand, most of the best trained, fastest trotters, only realized the full measure of equine grace and beauty when under full speed.

But the show of blood, grade, and fat cattle, was never larger here, or so good in quality. They were generally of the Durham and Devon breeds. The sheep and pigs were few, but choice specimens of their breeds.

Floral Hall was elegantly arranged. Here were some of the fairest fruits and flowers of the earth, added to a large display of cunning handicraft, which included paintings and embroidery of much merit.

Some finely mottled late Crawford peaches, measuring eleven inches round, represented a crop of fifteen bushels of the same variety. The west part of this town, being the only sandy region of little Seneca, is famous for peaches, particularly this season of peach scarcity.

The mechanical show was not large. The most notable was the display of superior improved double and single carriages and buggies. KING, (maker,) of Romulus, took the two highest prizes.

The great ball of the Harvest Home came off with astounding eclat, on the second night of the Fair; for the accommodation of which, Floral Hall had to be cleared of its showy contents, to the great disappointment of the thousands who came on the last day. S. W.—*Waterloo, Oct. 22, 1856.*

THOROUGH-BRED.—The term *thorough-bred* implies "a class of our domestic animals, whether it be of horses, cattle, sheep, or pigs, which is derived through a long race of ancestors, each of which has been selected with the utmost care for those superior qualifications which render them most useful and valuable."

WHEN Oxen refuse to work equally well on either side, or when they pull off against each other, yoke them on the side you wish them to work, and turn them out to feed in that way; they soon become accustomed to it, and work afterward on either side.

FARM NOTES.

EDITORS GENESEE FARMER:—You have invited farmers to give you their experience in farming the past season, and though I have no great results to boast of, I have great occasion for information, and it is more for that purpose that I have anything to offer at this time.

OHIO DENT CORN.—I have raised the Ohio Dent corn on a limited scale for the past six or seven years, and have found that if planted early and on a rich warm soil, there is little danger from frost, and that the crop is greater, and the corn for many uses better than most other kinds,—although my opinion as to quantity and quality is not the result of any actual experiment. On good dry soils, mine has never failed to ripen; even last year, it was ripe and cut up before the early frost which, injured so much corn in this county. It has perhaps grown a little earlier from being raised in this latitude for several years. I think this corn is sweeter—makes better puddings—is softer, and better on that account for feeding raw, especially to horses. It is said to be lighter, but if so, I think it is only because it does not pack as closely, on account of the shape of the kernel. I should like to know whether others of your patrons have made experiments with it, and with what success; also whether there has been any analysis by which we can see how it differs from other kinds in composition.

TWELVE-ROWED DENT CORN.—I have also this season raised a few bushels of an early twelve-rowed Dent corn, from seed sent me by J. W. BRIGGS, of West Macedon, N. Y., called by him (I think) "Adam's Early," which I think is an excellent variety for field culture. Its habits are much like those of the Ohio Dent, but I think a few days earlier.

WESTERN RED POTATO.—I have also, this and last seasons, raised the "Western Red" or "Rochester Red" potato, side by side with the "Early June," and have found (especially this season) that the former has produced full twice the amount of the latter, and that the tuber of the former is fully equal in flavor to the latter and most other kinds. The tops keep green till frost, and in its habits it much resembles the old Merino; the tubers, however, are a little different in shape, and their flavor decidedly preferable. I should like to know the history of this potato, and its success with others.

THE CLINTON GRAPE.—I should like to say further, if I am not trespassing, that in the spring of 1854 I sent to J. P. Fogg & Co., of your city, for (among other articles) two Clinton grape roots, and received in due time plants of one year's growth from the cuttings. Thinking that by the side of the Isabella they were of little value, except to make out a variety, I gave one away, and the other I nursed as well as I knew how, and this season I have been rewarded by at least a peck of fine grapes, and with all due deference to the palates and opinions of others, the finest grapes I ever tasted; and I would advise all persons who have ground enough for two grape vines, to plant one Clinton. You may not prefer them for flavor, as I do, but there are at least two facts to recommend it above the Isabella. One is, that it is from ten to fifteen days earlier, and will never fail to ripen; and the other is, that it is natural to this climate, and not one that I have seen has been injured the two past winters,—while Isabellas

in the same situation were winter before last generally killed here down to the surface of the snow.

AGRICOLA.

Gorham, N. Y., Oct. 13, 1856.

[Our esteemed correspondent will accept our thanks for his interesting notes. We hope to hear from him frequently.—Eds.]

THICK OR THIN SOWING.

MR. WILLIAM HUTTON, of Belleville, C. W., in his Prize Essay on "Agriculture and its Advantages as a Pursuit," recommends the Canadian farmers to sow more seed. We believe he is more than half right, but as it is a point of great importance, we should be glad to have the opinion of our experienced correspondents. Mr. H. says:

"From many years' experience and intimate knowledge of Canada, I am convinced that farmers do not sow thick enough. As to wheat and oats for example: if thin sowed on rich land the young plants will stool out or tiller very much, showing that nature makes a great exertion to supply the want of seed, and every farmer will observe that each shoot as it becomes further removed from the parent stem becomes weaker, and the produce more and more deficient, and more liable to disease, such as smut, mildew, &c.; and they will further observe that every outshoot from the parent stem is more subject to disease and weaker than the parent itself. In 1850, in a field of ten acres, I tried two average acres with a double cast of seed, sowing about $3\frac{1}{2}$ bushels to the acre, and I was delighted to find at harvest, that on this land, thus thickly sowed, the crop was fully one-third better than any other two acres in the field; there being more parent stems, the heads were prouder and came all to more equal maturity; the capabilities of the soil were more equally diffused, and the result showed so very much in favor of thick sowing that I am led strongly to recommend the practice. It is too much the custom in Canada for farmers to calculate what return they have from the bushel of seed instead of from the acre of ground. If they put in more seed they might have a smaller return *per bushel*, but they would have a larger return *per acre*, which is the great desideratum.

I have this year sowed four bushels of oats to the acre, and I am confident there is not one grain too much; the soil is heavy clay, but even on rich loam I would recommend the same quantity of seed;—the experience of the old countries is, that that quantity is not too much there, and I know of no principles by which our cleared lands would require less seed than similar soils in England. Having farmed many years very extensively in the Old Country, I have always sowed $3\frac{1}{2}$ bushels of good wheat, and four of oats (weighing 40 lbs. to the bushel) to the acre, with the best possible effect. The land, too, is not nearly so much exhausted by growing a thick crop as it is by growing a thin one, even if the acreable produce were the same, which is quite possible, but of rare occurrence. The same principle holds good in the sowing of clover. If much grass seed is not sowed with it, there should be 12 lbs. per acre sowed; and this is the quantity always sowed in the best agricultural counties of England; and perhaps for this reason—there the custom prevails to a great extent, to plow down the aftermath or second growth when about eight inches high, and sow wheat upon it, and I have seen splendid crops from such practice: but where this custom prevails the clover is never kept a second year, it is either mowed and the second growth plowed down for wheat, or it is pastured till October and then plowed down."

ERRORS IN SHOEING HORSES.

THE following extracts from a pamphlet on Horse Shoeing, by Dr. CUMING, of St. Johns, N. B., should be read by every owner of a horse, and pasted up in every blacksmith shop in the country:

"The function of the fore leg is mainly that of supporting the weight of the body, head and neck, and of transferring that weight forward from point to point, the time the animal is in motion. In performing the latter action, its mechanical bearing is much the same as that of a spoke in a carriage wheel. It is in fact a lever, in which, to give increased speed, the power acts at a disadvantage; the fulcrum or fixed point being at the long end of the lever, while the power and weight act near each other at the short. This long portion or arm of the lever is the leg from the elbow to the ground, the toe being the fixed point over which the body is raised, and hence any addition made to the length of the toe, has the same effect upon the horse as the placing a block before the wheel of a carriage has on it. It acts against the muscular power of the animal as used in the raising and carrying forward of his weight, and if ridden, of the weight of his rider, and though only requiring a small additional effort at each step, tells materially in a day's journey. Every one the least judge of horses can tell of the advantage of having them short below the knee, and is ready to despise as misshapen any one that has the reverse defect. But there seem few (hereabout at least) who have got as far as the consecutive idea, namely, that to cultivate an additional inch of unnecessary toe, is just the same as to put that much to the length of the bone below the knee, in fact for the horse, worse, as the addition is made at the point of greatest disadvantage.

"In the hind leg, though the functions of the parts be different, the effects of a long toe are equal, if any odds worse. The main use of the hind leg is the propulsion of the body forward, and when hauling of the load also. In effecting this the leg from the hock to the ground is a lever also of the second class. The power is the muscles whose tendons are inserted into the point of the hock, the resistance is concentrated in the *tibia* or bone of the leg, where it forms the hock joint, and the fixed point of the lever is the point of the toe upon the ground. From this it is plain, on the simplest mechanical evidence, that anything added to the length of the toe, is so much leverage placed against the animal's power of hauling, and consequently that he must either do less work, or else exert himself more in the doing of it.

"Mechanical disadvantage to the horse in the performance of his work, however, is but one of the evils following the long toes common in this country. Another, equally great, often arises when he is standing at rest.

"Every one knows what is meant by a horse being 'sprung in the knees.' For the information of those who are curious to know how this condition is produced, I will explain one of its causes. The bones of the foot and pastern of the horse do not stand perpendicularly above each other, but slope backwards, a considerable portion of the animal's weight resting on the tendons that pass down the back of the leg, and hence the greater the slope, the more strain the tendons have to bear. If we put a horse to stand with his head up hill, more exertion is needed to sustain himself than if standing on a level. The reason is that the bones of the foot and pastern are thereby placed more obliquely, and more of his weight is thrown upon the tendons and muscles, and thus a wearied horse, if left to himself, always feeds with his head down hill. But we add to the slope of the foot and pastern the same by adding to the length of the hoof and shoe, as

by placing the horse's head up hill, and with greater permanency of effects, as we leave him no power to relieve himself. Often the two conditions are conjoined, the toes are injuriously long, and the horse is confined nine-tenths of his time in a sloping stall. Here the muscular exertion of sustaining his weight soon becomes irksome. He shifts from one foot to another, but finds it only temporary relief. The muscles connected with the tendons that pass down the back part of the leg to the foot soon begin to relax, till the weight of the body falls on the ligamentous straps behind and below the knee. Then the bones of the pastern and foot become still more sloping, and to sustain his body perpendicularly above his feet, and still more to relax the muscles, the knee bulges out in front to a line with the projecting toe. This at first occurs only now and then, when the horse is wearied or forgetful, his postures becoming natural and proper when roused up. By-and-by, however, it becomes a habit, and the causes being permanent and constant in their action, the effects soon become the same, and we have the horse for life 'sprung in the knees.'

"Many a valuable horse, tottering on the brink of this condition, has been saved and brought back to usefulness, by having his feet put in proper shape, and a run at grass or a loose box to stand in allowed him, while others on whom the torture of long toes and sloping stalls was persevered with, have become permanently useless.

"Another evil, resulting from the length at which the toes are commonly left, is interfering. The horse, finding the long projection in front of his foot as so much leverage acting to his disadvantage, gradually gets into a habit of shifting it, by raising himself from one or the other of the quarters. This is still more the case when, in addition to the long toe left on the hoof, a small round knob of steel is set into the point of the shoe, as if in contempt of all that nature teaches. With these absurd contrivances placed between his weight and the ground that supports it, it is next to impossible for a horse to raise himself evenly upward and forward, and hence the number that one way or another interfere. If in raising his weight from the ground, the pressure be upon the inside quarter of the foot, then the thick part of the pastern is thrown inward, in the way of being struck by the upper edge of the hoof of the other side. If the cant be the other way, and the outside quarter raise the weight, the inside edge of the shoe is thrown round and upward, and runs the risk of cutting with it the opposite leg. Even when the horse, from having a naturally good gait, escapes both these evils, still he is not free from trouble caused by this shape of shoe.

"The fore foot of the horse, as nature makes it, has no such projection in front and downward as that which the smiths here give it, but rather the reverse. The sole surface at the toe is commonly broken off and notched back at the middle, so that the pressure, when the foot strikes the ground or the animal is raising his weight, is distributed over the whole front of the foot. In accordance with this the coffin bone, which fills the internal cavity of the hoof, has the same turned up and notched back form."

THE HORSE.—If you have the care of horses, remember that a horse is much more easily taught by gentle than by rough usage. If you use him well, he will be grateful; he will listen for, and show his pleasure at the sound of your footstep. As to his food, you should do by him as by yourself—"little and often." As for his work, begin early, and then you need not hurry.—Remember it is the speed, and not the weight, that spoils many a true-hearted worker.

GRAIN SHIPPED DIRECT FROM CHICAGO TO LIVERPOOL.

A vessel named the *Dean Richmond* has recently made the passage from Chicago direct to Liverpool, via the Welland Canal and the St. Lawrence. This fact, together with the statistics proving "Chicago the greatest grain port in the world," have made a great sensation in England. The *Liverpool Daily Post* says:

"It is only within the last week that a most important question has been solved, one which has deservedly received great attention on the other side of the Atlantic, viz., Whether it is practicable and profitable to carry on a direct trade between Chicago, the *ultima Thule* of the American Lakes, and this country, without transhipment or forwarding via Buffalo and New York, the course hitherto generally adopted. Experience proves not only the feasibility but the benefits of this through traffic. There is now in the Queen's-dock a vessel of 387 tons burden, the *Dean Richmond*, which has not only made the passage from Quebec, but has traversed 2,400 miles of inland water, bearing a cargo of 400 tons of grain, the first vessel and the first cargo which ever arrived here direct from Chicago, opening a new field for commercial enterprise, and marking an important epoch in the annals of the Far West.

"Nor is it a matter of local importance, or likely to result in the benefit of American interests only, else we should not refer to it. World-wide advantages may follow. Great benefits to us must arise from the success of this plan. Whatever conduces to cheapen food, facilitate its delivery, and increase its supply, must be to the general good; and the arrival of the *Dean Richmond* gives promise of being the forerunner and opener of a trade which will produce the above results.

"That we may not be supposed to have overrated the importance of Chicago, it may be as well to state a few facts with reference to the trade with that port.

The population in 1850, was 29,000; in 1856 it has increased to 104,000. The shipment of grain in 1855 was 2,200,000 quarters, being the largest quantity shipped from any one port in the world; pork, 77,000 barrels; beef, 56,000 barrels; imports 40,000 tons of iron, 110,000 tons of coals; lumber, 325,000,000 superficial feet; arrivals, 6,610 vessels of 1,603,845 tons. The port possesses storage in warehouses for 500,000 quarters of grain, at which 400-ton vessels have been loaded in four hours. We are indebted to Mr. Richmond and Captain Pierce, the owners of the *Dean Richmond*, for these statistics.

"It should not be forgotten that all this trade was carried on under the disadvantageous circumstances already referred to, all these vessels laden merely to be discharged into others, not one having come direct to Great Britain but the *Dean Richmond*. To what vast proportions may not such a trade be extended, when provided with greater facilities! Have we not all cause to hope that the experiment, so successfully brought to a close, may eventuate in a constant communication, to the mutual benefit of all?

"The North Western States, with their great railway and canal facilities, can lay down at the lake ports larger quantities of grain, at a less cost, and deliver the same in England in a shorter time than the countries on the Black Sea. Hitherto, as we have stated, the trade has been carried on via New York, the goods passing through three or four different hands, ere they reached England, each change entailing a commission besides loss of time, and three several freights—in the aggregate amounting to 13s. 8d per quarter, [41 cents per bushel,] with an unusually low rate of carriage to Buffalo. The Black Sea freights at present are 13s per quarter, [39 cents per bushel,] and the usual voyage

from Galatz 70 to 100 days. The *Dean Richmond* has made the entire passage in 60 days, including 12 days' detention in the St. Lawrence, which would not be likely to occur again; vessels, therefore, may be expected to make the run in 50 days, while a vast saving in expense will be gained, the freight and charges being less by several shillings than via New York or from the Black Sea. The canal dues on a cargo of 400 tons and the ship amount to £30, [\$144,00,] and steam tugs £30 more; there are no port charges, light dues, or pilotage on the Lake, and therefore the saving of commissions and freight is not counterbalanced by other imposts.

"Another important matter is the improved condition of the grain which a direct trade would secure. At present the Liverpool merchants complain with justice of the state of the Western grain when received via New York and Montreal, in large ships. That now discharging from the *Dean Richmond* is in as good condition as when shipped, thus showing the advantage of the direct trade in vessels of 300 to 400 tons."

In commenting on these facts, the *Mark Lane Express*, of Sept. 29, remarks as follows:

"It is scarcely possible to over-rate the importance of this communication. The four great points in a further supply of food to the people, appear now to be all fully provided. An immense depot to draw from—a great saving of time in the transfer—a proportionate economy in the carriage—and an improved condition in the article itself. There can be no doubt about these facts. They are fully established in the arrival of the *Dean Richmond*. It is only a question, indeed, whether this performance may not be even yet further improved upon. If not, this is of itself sufficient to furnish a new era in the conduct of the corn trade of the world; and as such we call to it the best attention of our readers. We shall of course return again to the consideration of so vital a topic to us all."

The "Thunderer of Printing House Square"—the *London Times*—of Sept. 27, makes the following deductions:

"All this means nothing less than a great revolution in the grain trade, which has hitherto been far too much in the hands of the Greek houses. Let any one be at the pains of turning to a map of North America, and let him mark the position of Chicago as an entrepot for the grain States. It lies in their very heart, and from this town to Liverpool the traffic can be so arranged that it will undersell the Black Sea trade and force it to reduce its freights. From Lake Michigan into Lake Huron, from Lake Huron into Lake Erie it is an open navigation. At the eastern extremity of Lake Erie we come upon the Welland Canal—this canal is but short—through which a ship passes into Lake Ontario, and from that point her run is free down the St. Lawrence into the Atlantic and to a British port. Were Detroit or some other port at the western end of Lake Erie chosen as the point of departure, in place of Chicago, at the foot of Lake Michigan, there would be a gain of ten days upon the run. The distance between the two points is inconsiderable by land, but by water there is a necessity for circumnavigating the whole peninsular of Michigan. Of the objections to this suggestion we are unaware; they can only be propounded by local experience. The position, however, of Chicago, is favorable enough to enable it to drive all competitors out of the field, even if no better can be chosen. This change in the direction of the grain trade is one which we regard with peculiar satisfaction; for, as one of its collateral consequences, it will help our Canadian fellow-subjects to carry out their project of a well-organized communica-

tion (by steamer) between Quebec and Liverpool. The St. Lawrence, backed as it is by that magnificent series of inland seas, ought to be the high road from Europe into the heart of the North American continent. Whatever lies in our power to arrive at so desirable a conclusion, we are bound by every tie of interest and patriotism, of affection and policy, to perform. The log-book of the Dean Richmond will, we trust, prove a notable addition to the records of the Canadas."

ABOUT FALL PLOWING.

In the few years' experience which I have had in farming, *late sowing and planting* seems to be the cause to which may generally be traced a large share of the failures of our spring crops. Our summers are generally dry; if the drouth comes on early, the crop is pinched in the early stages of its growth, and unless the latter part of the season is very favorable, it remains pinched at the harvest. But why do we sow and plant late? Because the springs are wet and cold: we cannot plow our heavy soils until the season is considerably advanced, and then the pressure of work is great,—we have barley, oats and corn to prepare for, fences to repair, manure to haul, and a thousand things to attend to, and some of them must be delayed. In consequence of this delay, our barley and oats dry up, our corn is cut off by an early frost, and not a few of the many things which ought to be done are totally neglected.

What can we do to remedy this state of the case? I think *Fall Plowing* will mend the matter in several respects. The land which is last fit to plow in spring is in its best condition for plowing in autumn, and needs the ameliorating influences of fermentation and frost to fit it for spring crops. We have a case in sight, where a large clay field was broken up late in spring, when too dry, and consequently come up in large lumps, many of them all a man would wish to lift. This was four years ago, and the ground has not yielded a crop of any account since. It is equally injurious to plow when the land is too wet—as was a portion of the same field, though it will answer to plow land moister, in autumn, than in spring.

Another benefit of fall plowing is that sward land may be better mellowed and subdued, than by plowing at any other season. The grass should be carefully turned under, and its roots, being exposed to the frost, will be killed. Weeds also share in this destruction. Though I would plant corn on manured green-sward plowed in the spring, I would not sow any other spring crop. I tried it the present year, to my satisfaction; and though the sward was plowed early and carefully, and well harrowed, and then gang-plowed immediately before sowing, the yield was but a moderate one, and the crop (oats) the poorest ever grown on the farm. Other advantages might be mentioned—such as the state of the team, and the price of labor; but any farmer who will *think* about it, will see at once that it is a good plan to plow for spring-wheat, barley, and oats, in the fall, especially on the heavier soils.

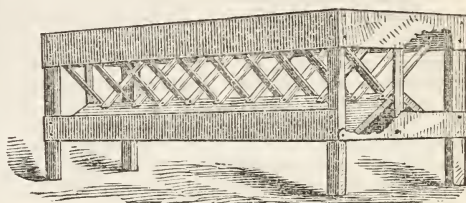
The prejudices against fall-plowing have generally arisen from trying the experiment in an imperfect manner. It is of very little use to turn over the soil, if you leave it to lay under water all winter. It will become as hard as before—the frost cannot produce any favorable effect upon it, and instead of drying off, light and mellow, in the spring, it will be ready for

brick-making—needing only to be burned to become as solid as the best in the kiln. Plow narrow lands, clear out the dead-furrows, provide carefully for the drainage of all surface water, and as much better as you can, and you will become a believer in fall-plowing as is

A YOUNG FARMER.

RACK FOR FEEDING SHEEP.

"A Young Beginner" asks how to make a good rack for feeding sheep. I have recently finished some which promise well, and came to me well recommended. I will try to describe them:



The posts, 40 inches high, are made of 3 inch scantling. Next the top, all around, are nailed boards 8 inches wide, and to another six inches wide one foot from the bottom, making a frame 26 inches in width and 8 or more feet long, as may be thought best. Bottom boards, 7 or 8 inches wide, are nailed in each side, and two boards, the edges nailed together at right angles, are placed upon these in the center of the rack, forming the remainder of the bottom. This made fast, the frame is ready for the slats, which are 2 inches wide and 22 inches long, beveled at the top and nailed against the lower part of the top board inside, and to the slanting bottom boards in the center. They are placed three inches apart.—This gives a trough and rack for feeding both grain and hay, and prevent the waste of either. About 75 feet of lumber will build an 8 foot rack. Mine I value at \$3 each, though they cost me, aside from my own labor on rainy days, less than one-third that amount.

This being my first experience in sheep racks, I cannot speak positively as to their merits, but my faith in them is equal to my works. I have built enough for our little flock, and shall give them a trial. A correct drawing would make all plain beyond mistake, but our skill with the pencil is small—nevertheless we send you a rough sketch that perhaps your engraver can improve. The rack was originated by a correspondent of the *Michigan Farmer*, but I think I have varied from and improved upon his model.

B. H. J.

WILL FLAX CHAFF KILL COWS?—D. H. HUTCHINS, of Chambersburgh, Ohio, writes the *Ohio Cultivator* as follows:

"Six cows belonging to a brother of mine died last evening in the course of about forty minutes, after eating a little flax chaff and flax bolls. They were not swelled much, and upon examination this morning were not choked. The inside coating of the maw was very tender and decayed. They had been on short pasture of mixed grass and drank no water, it being a drizzly day. The chaff was new, and had no rain after being cut."

HEAR THE PETITION OF THE HORSES.

WE republish the following, a clip from an ancient Irish journal, with the greatest pleasure, and join most heartily in the prayer of the petition, with a devout and earnest request, that it be made to go "the rounds" in every quarter of the Union. "We love them that love horses," and could almost wish that some one would advocate the doctrine of the transmigration of souls, showing for the benefit of those who are guilty of cruelty to the horse in this life, that they may be sure of being repaid *in kind*, in that life which is to come.—*Ed. of the Boston Cultivator.*

To the Honorable, the Corporation of the City of Dublin, the petition of sundry Horses in the said City, humbly sheweth,

That your petitioners are conscious of the humble rank assigned them by their Creator, and that they cheerfully submit to the pre-eminence of man in the scale of animal beings, by yielding the labor of their lives for his benefit.

That in return for this submission to the first of animals which inhabit our globe, they expect to be treated with justice and humanity.

That these two cardinal virtues, which are of universal obligation from man to beast, as well as from man to man, have been violated towards your petitioners in many particulars, of which they beg leave to lay a detail before your honorable board.

Many of us after having served as coach horses for fifteen or twenty years, are sold to carters, and compelled to drag loads of wood beyond our strength. Our failure is severely punished by being beaten in the most cruel manner, not only on our bodies and limbs, but on our heads, by which means many of us have lost the use of our eyes. The food we receive while in the hands of these our new masters, is scanty in quantity, and by no means suited to the state of our teeth, which are both decayed and lessened in number by the effects of age upon them.

Many of your petitioners are compelled to work all the week, and instead of enjoying the benefit of rest on the Sabbath day, which the Creator of the world intended equally for the benefit of man and beast, we are hired out to sailors and others who know nothing of the peculiar nature of our species, and who by hard riding and starving us, greatly impair our strength, and thereby render us unfit for the labor of the ensuing week.

Many of us who are the property of citizens and kept in livery stables are deprived of the allowance of grain paid for by our masters, by the servants of the said livery stables, and thereby we are so much injured in our strength as to disappoint the expectations of our masters, when we are called into their service.

Many of us are kept idle during the week, and ridden only on Sundays, by which means we lose our health, for want of exercise, and afterwards are obliged, unwillingly, to share with our masters in the profanation of a day allotted to the beasts for rest, and to man for the public worship of his Maker.

Many of us, who are used only as carriage-horses, are taken out of warm stables and exposed for two or three hours at the doors of gentlemen's houses, at all hours of the evening and night, in cold and wet weather, waiting until young ladies have fitted their craws and bishops, or till young masters have fitted their collars and fixed their shoe straps, by which means we have caught colds, and have afterwards suffered a great decay in our health and strength.

Your petitioners having briefly stated their grievances, humbly request that the corporation would redress

them in such a manner as their wisdom shall direct. They shall trespass upon the time of the corporation only while they suggest to them the following reflections:

That, as the enjoyments of your petitioners in life are *few*, compared with those of man, their wants and sufferings should be in the same proportion. That food, rest, health, and warmth constitute the principal part of their happiness. That the cruelty of depriving them of these comforts is enhanced by their not being supplied with a hundred enjoyments which are peculiar to man. That they are, notwithstanding, connected with him by many common ties. They were called to partake with him of the blessings of existence, by the same almighty and benevolent Being; they enjoy with him the fruits of the divine goodness, in air, light, water and food; and they share with him in the daily protection of the same kind and bountiful Parent of the universe.

Signed, in behalf of all the horses in Dublin, by

BAY,	} A Committee for the purpose of petitioning the Corporation.
BLACK,	
SORREL,	
GRAY,	
STAR,	
ROAN,	

VALUE OF RACE HORSES.—The price fetched by the 200 blood yearlings which are usually brought to the hammer in England averaged, during the racing seasons of 1854-55, about \$635. The average price at the royal sale of 1854, was \$2,205 for 14, many of which were of the Orlando blood, which fetches a higher price than any other in England. No doubt, in all studs, great loss is sustained by a certain proportion of the young stock, which promise to be small and not worth training; but here breeders are often deceived. For example, the late Lord Grosvenor sent Meteora, the best mare in England, of her day, to Chester Fair, when two years old, to be sold for \$80, because she was considered as too small; and he also suffered Violante, the best four mile racer of her day, to be sold, untried, for \$250 but purchased her again. The great prices, however, occasionally paid to breeders for some horses—\$20,000, for example, to the Earl of Jersey, for Mameluke, and \$17,500 for Bay Middleton—make up for the loss inseparable from such as by misshape, diminutive size and casualties, are culled out and sold for what they will bring, which seldom amounts to much. Twenty-five thousand dollars were refused for Plenipo; and the greatest price ever given for a race-horse was \$32,500 for the two-year-old Hobbie Noble, in 1851. One may, however, cease to wonder at such prices, when we find that the Flying Dutchman won his owner nearly \$100,000 in stakes alone; and that the winnings of himself and his half-brother, Van Tromp, who belonged to the same owner, amounted to \$170,000.—Cotherstone won, at three years old, \$63,825; West Australian, \$54,875; and Surplice, \$51,875.

CAMPHOR A REMEDY FOR MICE.—Any one desirous of keeping seeds from the depredations of mice, can do so by mixing pieces of camphor gum in with the seeds. Camphor placed in drawers or trunks will prevent mice from doing them injury. The little animal objects to the odor, and keeps a good distance from it. He will seek food elsewhere.

CAMELS AND DROMEDARIES have lately been introduced into Texas. They carry at a load, about 1600 pounds, and walk as fast as a horse can trot.



SUBURBAN COTTAGE.

A CHEAP SUBURBAN COTTAGE.

THE *Rural Annual and Horticultural Directory*, for 1857, contains a series of beautiful designs for suburban residences, farm-houses, cottages, &c., prepared expressly for the work, by HOWARD DANIELS, Esq., of New York. We give the accompanying description of a cheap and pretty suburban cottage, as a specimen, and advise all who intend building to get the work,—which we send, postage paid, for 25 cents.

This cottage was built at Dale Cemetery, Sing Sing, N. Y., for the Superintendent's residence, and cost \$1,250. The exterior is covered with mill-worked pine flooring, in horizontal courses; the roof is covered with tin, and projects two feet; the window architraves are two inches thick, and a small hexagonal porch shelters the front door.

The perspective view shows the exact appearance of the building as it now exists.

FIRST STORY.—1. Living Room, 15 by 18 feet, and warmed by a stove, the pipe passing through the room above, and then entering into a chimney standing over the hall door to 5.

2. is used as a Dining Room in summer, and in winter as Kitchen and Dining Room; is 18 by 22 feet, and has a staircase leading to the

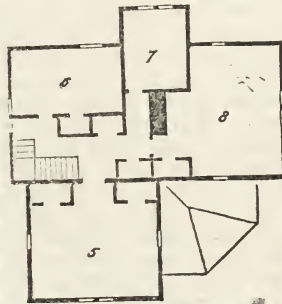
second story, and another under it to the basement, and a sink in the corner.

3. Store-room and Pantry.

4. Parlor, 15 by 18 feet.

A small porch shelters the front door, and an entry or vestibule six feet square affords access to all the rooms.

SECOND STORY.—In the second story are two large



(Nos. 5 and 8) and two small chambers, (Nos. 6 and 7,) with an abundance of closets.

BASEMENT STORY.—The west side of the basement is entirely out of the ground; a back door and entry occupy the space under 3, a kitchen under 2, fuel room under 4 and cellar under 1.

This design affords the maximum amount of available room,—is compact, convenient, and at the same time embodies considerable variety and elegance in the forms of its rooms and exterior.

TO DRY PARSLEY FOR WINTER USE.—Choose a dry, warm day, when the leaves are free from moisture.—Gather as much fresh, good parsley as you can spare; cut off the stems, and place it lightly on sheets of newspaper, in an oven not very hot, where it will dry gradually. It should remain until crisp; and the heat should not have been sufficient to remove the green color. When cold, put it in jars, or wide-mouthed bottles, and cork it well down. It is most useful as a winter store. Lemon thyme, mint, and sage may be similarly kept, until the young shoots give a supply in the spring.

TO MAKE GRAPE WINE.—Bruise the fruit into a pulp, lay it in a small quantity of water for twenty-four hours, then strain through a hair sieve, and to every gallon of this juice add two gallons of water, and to every gallon of the liquor add three pounds of sugar. Either barrel it directly, or leave it till the next day, cork it safe and place it in the cellar. In six months rack it off and add a small quantity of brandy.



Horticultural Department.

HORTICULTURAL HINTS FOR NOVEMBER.

Now is the time to underdrain, trench or subsoil the garden. Of the advantages of underdraining it is hardly necessary to speak. In most cases, it is absolutely impossible to have a good garden without underdraining. He who hopes to obtain good fruit from trees planted in a soil saturated with water at any season of the year, will most certainly be disappointed—and he deserves to be. It is a great mistake to suppose that underdraining is not as essential in this country as in Great Britain. In fact, it is more so. Our seasons are shorter, colder, hotter, wetter and drier. Underdraining will make a soil moister and cooler in dry, hot weather, and warmer in the spring and fall; making our growing season at least a month longer, and much more equable. Some may be disposed to cavil at these statements, but a little examination will satisfy any intelligent horticulturist that they are sustained not only by scientific experiments, but by the experience of thousands of practical cultivators of the soil. The simple fact,—demonstrated by very accurately-made experiments, by LINDLEY, PARKES, SMITH, and others,—that the temperature of an underdrained soil is from 10° to 20° Fahr. warmer than that of an undrained soil, is sufficient of itself to convince any thinking man of the advantages of underdraining a garden.

The first thing to look to in underdraining, is a good outlet. It should be at least four feet deep, and it is absolutely necessary that the water can run readily away at all times. If the outlet is stopped, in any way, the whole network of drains running into it will be useless. Having secured a good outlet, dig a main drain from it through the lowest part of the garden, and then cut small drains, branching off on each side, about a rod apart. This will drain your garden or orchard thoroughly, and ought not to cost you more than \$40 per acre, either with stones or tiles,—the latter being cheapest when they can be had from \$10 to \$15 per thousand.

TRENCHING AND RIDGING.—After underdraining, deepening, pulverising and enriching the soil claim the attention of the gardener. In this country, we are well aware that trenching is an expensive operation; but when a *good garden* is desired, it should not be neglected. There can be no doubt that, other things being equal, the deeper the soil is dug the more it will produce. Deep plowing and subsoiling may sometimes be substituted, but as yet no implement has been invented that pulverises the soil so well, and affords so good a *pasture* for plants, (as

JETHRO TULL quaintly terms it,) as the spade. McINTOSH, in his *Book of the Garden*, says that “digging, ridging and trenching is the most profitable employment men can be engaged in,” at this season of the year. “Every piece of ground,” he continues, “as soon as it is cleared of its crop, should be operated upon in one or other of these ways; and whichever be adopted, the rougher the surface can be thrown up the better, so as to expose the largest extent to the action of the weather. All manuring, without such operations as these, are of little avail; and these, even with a very limited supply of manure, will secure excellent crops. Ridging is a species of deep digging or trenching, where the soil is thrown up in parallel ridges; it is found valuable in strong, tenacious soils, as it presents the ground so ridged up to the action of frost better than when the surface is left more level.” It is true that in this country our winters are so severe that there is less necessity for ridging than in Great Britain, but even here it is advantageous, especially in destroying the eggs of insects, larvæ, slugs, &c.

Except in very sandy soils, the fall is the best time to apply manure to the garden. The experiments of Prof. WAX, and the experience of practical men, prove that there is far less danger of loss from leaching than has been generally imagined. On a clayey soil, long, unfermented manure, dug or plowed in deep in the fall, is very beneficial in loosening and ameliorating the soil, besides enriching it.

If you have not time to trench or dig all the garden, at least those portions intended for early peas, early potatoes and early cabbage should be dug and manured this fall.

STRAWBERRIES.—If not done already, clean up the strawberry beds, cutting off all the young runners and old used up plants, leaving early, strong runners in their place. Do not cut off the leaves, or in any way mutilate the plants which are to remain. Clean the surface from weeds, but do not dig between the rows. Cover the beds with good leaf compost or barn-yard manure, to protect the plants from the frost, and to enrich the soil.

RASPBERRIES.—The old bearing wood should be cut away close to the ground, leaving, if strong, four or five of the young shoots or canes; if weakly, two or three will be sufficient. These should be shortened in, according to their strength, from two to four feet high, and if of very strong growing kinds and but few in a hill, they may be left as high as five feet.

“No fruit-bearing plant,” says McINTOSH, “disagrees more with having its roots disturbed, than the raspberry: therefore digging about them should be carefully avoided, and enrichment given to the roots by the application of liquid manure and top-dressing of the richest kinds; and in the removal of root suckers, it is better to pull them up than to dig them up, as in the latter case the roots may sustain injury from the spade.”

There are but few varieties that do not need protection during our severe winters. The canes should be bent down, and covered slightly with earth. A good plan is to raise a small ridge between two hills, and bend down the canes from these two hills towards each other, across the ridge, and cover them with a little earth. In this way one bank covers two hills; and by bending them over a slight embankment few canes will be broken, particularly if it be done in damp weather.

SAVE THE LEAVES.—Taking the average of a number of analyses of leaves from several different trees, by MM. PAYEN and BOUSSINGAULT, leaves contain 1.13 per cent of nitrogen; ordinary barn-yard manure contains 0.41 per cent. There is no better criterion of the value of vegetable substances that will decompose readily, than the amount of nitrogen (ammonia) which they contain. One ton of leaves, therefore, are worth nearly as much as *three tons of ordinary barn-yard manure*. Every gardener knows from experience the value of leaf compost. In some cases we believe it would pay to gather leaves from the woods and make them into a compost for the garden. Be this as it may, we are certain that it will pay (besides improving the appearance of the premises) to rake up all the leaves from the garden and orchard, and put them in a heap with seedless weeds and other rubbish, barn-yard manure, &c. The heap should be covered with loam, and if soap-suds and other liquid from the house could be conveniently thrown upon it, so much the better. In the spring you will have a "spit manure" of great value for vegetables and other garden crops.

PREPARING GROUND FOR PLANTING TREES NEXT SPRING.—If you intend planting fruit trees next spring, prepare the ground this month, if not already done. Underdrain, plow deep, subsoil, and manure thoroughly the whole of the ground to be planted. Then plant the trees in the spring as early as possible, without any manure directly under the roots. If you have ordered the trees this fall from the nurseries and have not yet prepared the ground, heel them in till spring and get the ground ready immediately. This will be better than planting in the fall on unprepared ground. No after-treatment can fully make up for this want of preparation previous to planting.

Trees planted this fall should be staked and tied, and well mulched with manure. Indeed, all fruit trees, and especially dwarf pears, should be well mulched with manure this month. Rare and tender trees and shrubs should be well covered with evergreen boughs or straw. Peg down tender roses, and cover with earth. Dahlias and all other tender bulbous and tuberous roots, if not already done, should be taken up at once. Care should be taken that the roots are not damp when stored away, or they will be injured or destroyed by mould, &c. Dahlia roots should be packed between layers of straw, with the stems downwards. Gladioli, Tuberose, Tigredias, &c., should be packed in dry sand.

PRESERVING PLANTS IN WINTER.—Nothing has more discouraged the cultivator of flowers, than the supposed difficulty of preserving them in winter; but as experience is acquired, this obstacle disappears. Many plants may be summarily dealt with. Cactuses and scarlet geraniums will do well in any dry cellar without water. More plants die in winter from the effects of damp than by frost, and they should be watered sparingly, just enough to keep them from flagging. The best method of wintering them is in frames, well surrounded with dung, and covered with a thick mat or carpet, giving plenty of air when the weather is not frosty. When plants are found frozen in windows, &c., let them thaw in a dark cellar, and they will often sustain no injury. In this way may be preserved Pelargoniums, Calceolarias, Verbenas, Hydrangeas, &c., and they will come out fine and fresh after a long winter.

NORTH RIVER ANTWERP RASPBERRY.

THE origin of the North River Antwerp Raspberry, now extensively known by that name is as follows:

About twelve years ago, a Mr. KINN, then an assistant Gardener to Mr. DOWNING, of Newburgh, visited the Fruit Garden of a Mr. BRIGGS, at Poughkeepsie, and on his return, stated to Mr. Downing that the aforesaid Mr. BRIGGS possessed a Raspberry which he had imported from England, without a name, and advised Mr. Downing to cultivate it by all means. Mr. D. at once commissioned Mr. KINN to go over to Brigg's garden and engage all the plants he had to spare.

This Raspberry is generally considered the best market berry in this country, being a fine, large, conical fruit, and has this advantage over the Fastolf—a much firmer texture—and consequently can be carried a greater distance to market in good order.

The genuine Antwerp Raspberry of Europe is quite a different fruit. The cane has more of a dull, rusty appearance, and closely covered with spines, whereas the North River Antwerp is smooth and ashen colored on the cane and prone to branch more.—The fruits in shape and appearance are very similar, but the North River variety, for profit, will be the choice of the fruit growers for market.

W. PATTERSON, Newark, N. J.

A FEW FIRST RATE DAHLIAS FOR NEXT YEAR.—As this is the best time to buy Dahlia roots for the reason that the purchaser can get a better choice and the dealers are not so hurried now as in the spring, perhaps it would not be unseasonable to name a few of the best varieties for this climate. A good dahlia should in form represent a half sphere. The petals should be well quilled and symmetrical in arrangement, and the flower well up in the center, for if it shows the least particle of eye it cannot be called a good bloom. I think that the few following varieties will include all that are really best in quality, viz:—*The Nigger*, the best dark flower yet out. *Queen Victoria*, beautifully shaded and bronzed, the very acme of perfection in shape. *Duchess of Kent*, a very fine show flower, finely tipped. *Beauty of the Grove*, another splendid flower, of first rate form and color. *Ringleader*, the best of its color, and of fine form. *Julien*, a perfect gem, as regards form, and also a good color. *Miss Ward*, a capital flower.—*Beauty of Hastings*, well worthy of the good name it has received. *La Phare*, a magnificent continental variety, the brightest colored flower yet out—a bright, blazing scarlet—of good form and substance.

The above varieties will form a collection fit for a queen, and will please the most fastidious. Perhaps some may think that I have proscribed too many varieties in my choice, but in my opinion the list given contains all the good flowers that can be depended upon in this climate. W. T. GOLDSMITH.—*Rochester, N. Y., Oct. 23. 1856.*

SUN FLOWERS.—The seed of the sun flower is valuable for making oil, as well as for feeding fowls, &c. Who has grown any the past year? Please write and tell us how, when, where, &c.

LEAVES absorb and give out moisture, and inhale air; they are, consequently, the most important organs of a plant, and if they are destroyed or injured, the whole plant suffers.

WILD FLOWERS—THEIR CULTIVATION, &c.

(Continued from page 320.)

It is gratifying to see the increasing interest manifested year after year in the cultivation of flowers; for it indicates the advancement of civilization and refinement, as well as a higher standard of morality in the community. But there is yet a large class so wanting in good taste that they consider the cultivation of flowers as a very useless employment.—To this class we would say, that happiness is the aim and object of all the labor of man. In proportion as mankind advance, they seek for more extended and more intellectual sources of happiness. One of these is the cultivation of flowers.

"A passion for flowers," says Mrs. HEMANS, "is, I really think, the only one which long sickness leaves untouched with its chilling influence. Often during a weary illness, have I looked upon new books with a perfect apathy, when, if a friend has sent me a few flowers, my heart has leaped up to their dreamy hues and odors, with a sudden sense of renovated childhood, which seems to me one of the mysteries of our being." To a cultivated taste, indeed, flowers ever present the rarest attractions and the most fascinating charms.

Who does not love flowers? They are such pure and beautiful things, such sweet gifts from our Heavenly Father, scattered with lavish hand to gladden the hearts of his creatures. Not for the wealthy alone do they bloom, but the lowliest cottager may claim them as his own to beautify his humble home. We never passed a cottage overhung with vines, where roses and honeysuckles mingled, and morning glories peeped in at the windows, without thinking that there must be in that lovely abode, hearts full of love—love for the beautiful and love for our Heavenly Father.

Whenever we see a house with its neat lawn, or flower-garden, and well-trained vines and shrubbery, whether it be in the thriving village or away from the "busy haunts and noisy shops," up among the hills or mountains, we always feel that the dwellers therein have hearts that feel for others woe.

Whenever we see a happy boy or girl, gaily tripping along the schoolward path, with a bunch of flowers, whether culled from garden or road-side, for the teacher's desk, we always feel that in the young heart which prompted the gift, the teacher will find a ready and cheerful obedience to all his wishes.

Flowers are emblems of spring, and have in all ages been made the representations of innocence and purity. We decorate the bride and strew her path with flowers; we present the undefiled blossoms as a similitude of her beauty and untainted mind; trusting that her destiny in life may be like theirs, grateful and pleasing to all. We scatter them over bier and the earth when we consign our mortal blossoms to the dust, as emblems of transient joy, fading pleasures, withered hopes; yet rest in sure and certain trust that each in due season will be renewed again.

The love of flowers seems a naturally implanted passion, without any alloy or debasing object or motive. The cottage has its violet, its marigold, its pink, its polyanthus and its rose; the villa its geranium, its fuchsia, its dahlia and its clematis; we cherish them in youth, we admire them in declining days.—But after all it is the wild flowers, the early flowers of spring that always bring with them the greatest

degree of pleasure, and our affections seem immediately to expand at the sight of the first opening blossom, however humble its race may be. Flowers are the harbingers of spring. In the long and sombre months of winter, our love of nature, like the buds of vegetation, seems closed and torpid; but, like them, it unfolds and reanimates with the open year, and we welcome our long-lost associates with a cordiality which no other season can excite, as friends from a foreign clime. The violet of autumn is greeted with none of the love with which we hail the violet of spring; it is unseasonable, and perhaps it brings with it rather a thought of melancholy than joy; we view it with curiosity, not affection. And thus the late is not like the early rose. It is not intrinsic beauty or splendor that charms us, for the fair maids of spring cannot compete with the grander matrons of the advanced year; they would be unheeded, perhaps lost in the rosy bowers of summer and autumn. No, it is our first-meeting with a long-lost friend, the reviving glow of a natural affection, that so warms us at this season; to maturity they give pleasure as the harbinger of the renewal of life, a signal of awakening nature, or of a higher promise; to youth they are expanding, being opening years, hilarity and joy; and the child, let loose from the house, riots in the flowery mead, and is "Monarch of all he surveys."

There is not a prettier emblem of spring than a child sporting in the sunny field with its osier basket wreathed with its daisies, cowslips, buttercups and violets. With summer flowers we seem to live as with our neighbors, in harmony and good will, but spring flowers are cherished as private friendships.

In a former communication we gave a short catalogue of wild native flowers worthy of cultivation. We will now add a few more to the list, which are not only susceptible of cultivation, but highly meritorious, and should have a place in every lawn or flower garden.

We propose now to notice such plants as are distinguished for their beauty or singularity, together with the soil and locality in which they flourish.

LILIES.—*Lilium Superbum*—is the most magnificent of our wild herbaceous plants—far more showy than the much-lauded new Japan Lilly, (*L. lancifolium*.)

They do best when transplanted, early in spring, into deep, rich, and if possible, moist soil. If not naturally moist, the ground should be covered with straw or litter through the heat of summer.

L. Canadensis—is of a light orange color, found in the Northern States in our meadows, and flowers in July. All the lilies are propagated by offsets. When the old bulbs have several small ones formed around them, take them up in September, divide them into single bulbs, replant the large flowering bulbs immediately, into fresh, rich earth, where they are to flower. The small bulbs, plant in a bed of the same kind of soil, in some corner by themselves. After two years, take them up and plant them where they are to flower, taking care to enrich the soil with well decomposed manure. We have succeeded in taking them up in July, when in full flower, by taking a ball of earth with them and carefully placing in a damp soil.

LILY OF THE VALLEY.—*Convallaria Majolis*.—We know a garden where no one can flower the Lily of the Valley well, and we also know places where it flowers in the greatest abundance, without any care whatever. We have seen it growing wild by the acre,

in a shady wood, the soil being mere sand enriched by the fallen leaves; we have dug it out of that wood, and found all the roots within three inches of the surface. We also have seen it flower abundantly on a border, in a rich kitchen-garden soil. It thrives best in a shady situation; is a low growing plant, with racemes of white, sweet scented, flowers in May, and is very hardy. March, or early in April is the best time to plant them; and the third year they are in full perfection, and will last for ten or twelve years.

ASTERS.—*Starwort.*—To this family of plants are we indebted for many of our autumn ornaments.—No person, traveling in the month of October, could fail to have his attention arrested by certain bright, showy flowers, varying in color from a light to a dark blue, growing in the wood and by the roadside. It is the Aster; a deciduous, herbaceous plant, and can be propagated by a division of its roots, and flourishes in almost any common soil; flowers in September and October. PURSH enumerates no less than seventy-five species, all natives of North America. Some of the kinds are very handsome, and were they not so common, would be thought worthy a place in our grounds and shrubberies, as they are in Europe. We have seen some of these showy and beautiful plants, growing to the height of ten feet when cultivated, and bearing upon their spreading tops several hundred flowers. They require no particular care, but when once introduced into our gardens, continue to grow and thrive for years.

SCARLET COLUMBINE.—*Aquilegia Canadensis*.—is a well-known May flower, growing on dry, rocky hills, and in gravelly soil, of elegant habit, and having delicate, pendulous, scarlet flowers. When removed from its wild locality to the richer soil of the garden, it grows with great luxuriance, and produces tenfold more flowers than in its wild state. It is very showy, and should be transplanted into fresh soil every second or third year. The White European Columbine should be planted with it for the contrast of color.—When thus situated, beautiful hybrids can easily be obtained from the seeds of the English Columbine, partaking of the character of both species, and distinct from either. Seeds sown in April; common soil. Seedlings flower sometimes the first, but generally the second season. All hardy, herbaceous perennials. It may be found growing from Canada to South Carolina, and may be easily transplanted to the garden.

As this article has already exceeded our limits, we will close with the promise of continuing the subject hereafter. C. N. BEMENT.—*Rochester*, Oct. 1856.

STRIKING CUTTINGS.—To promote the striking of cuttings, several points should be attended to. *First*, the soil should be light, rich, and porous; *secondly*, it should be kept warmer than the atmosphere surrounding it; this is very important; *thirdly*, a cutting should be cut at the bottom close up to a joint; *fourthly*, it should be covered from atmospheric influence, to prevent evaporation; *fifthly*, if a hard-wooded subject, the last year's growth should be selected. In general the simplest and safest way to strike cuttings is to fill a pot within half an inch of the rim with light and rich soil, and put silver-sand half an inch thick on the top; saturate this with water, and plunge the cuttings to the bottom of the sand, but not into the soil; cover with a bell glass to keep out the air; wipe it out every morning; keep it plunged in tan, with a genial heat, and keep off the sun.

COMPOST FOR GARDENS.—As it is in vain to expect successful gardening results, unless proper nourishment is supplied for the flowers or vegetables planted in the soil, a few hints may be useful, as to the means within the reach of all housekeepers for making their little plot of ground, or their larger gardens, productive of beauty, and much real help in the housekeeping department. Without access to stable or farm-yard manures, an excellent substitute may be made by carefully saving all refuse vegetable matter, weeds from the garden, potato rinds, leaves of vegetables, dead flowers, the contents of the dust pan, all useless bones, cracked or pounded, wood ashes, cleanings of fish and poultry, useless fat, waste of candlesticks, a mixture of the fine dust from coal ashes. Over this collecting heap, pour from day to day all greasy water, and every slop from the house, from bed-rooms as well as kitchen; soapy water is a valuable help; and, should opportunity offer, add any road scrapings within reach. When the heap has been collecting for a year, turn it once or twice; this may be done when you have a little spare time, and this will soon render it sufficiently dry to be riddled through a rather coarse cinder riddle; it should now be kept dry, and be used to enrich the soil, in sowing the spring or summer crops, and being mixed with the mould 5 or 6 inches deep, or more, as your plants may require, it will produce a very fine show of bloom in the flower garden. Large crops of vegetables of the best quality, and flowers in great perfection, have been grown on poor land improved by the means above described; this alone as manure, together with deep cultivation, by digging and trenching the garden patches in autumn, and constant stirring and weeding in summer between the growing crops, will materially assist their growth, as well as tend to the permanent improvement of the soil.

DIFFERENT KINDS OF GLASS FOR GARDEN STRUCTURES.—TURNER & SPENCER'S *Florist, Fruitist, and Garden Miscellany* for September, contains an account of experiments made by Mr. ANDERSON, of Dougleat, Scotland, to determine the effect of different kinds of glass in garden frames, green houses, &c. Five years ago a four light frame was devoted to the purpose, having one light glazed with rough plate glass, the second with corrugated glass, the third with sheet glass, and the fourth with crown glass. During the five years a variety of plants were grown in the frame, including strawberries. *No perceptible difference could be detected, either in the growth of the plants, the color of their flowers, or the flavor of the strawberries.*

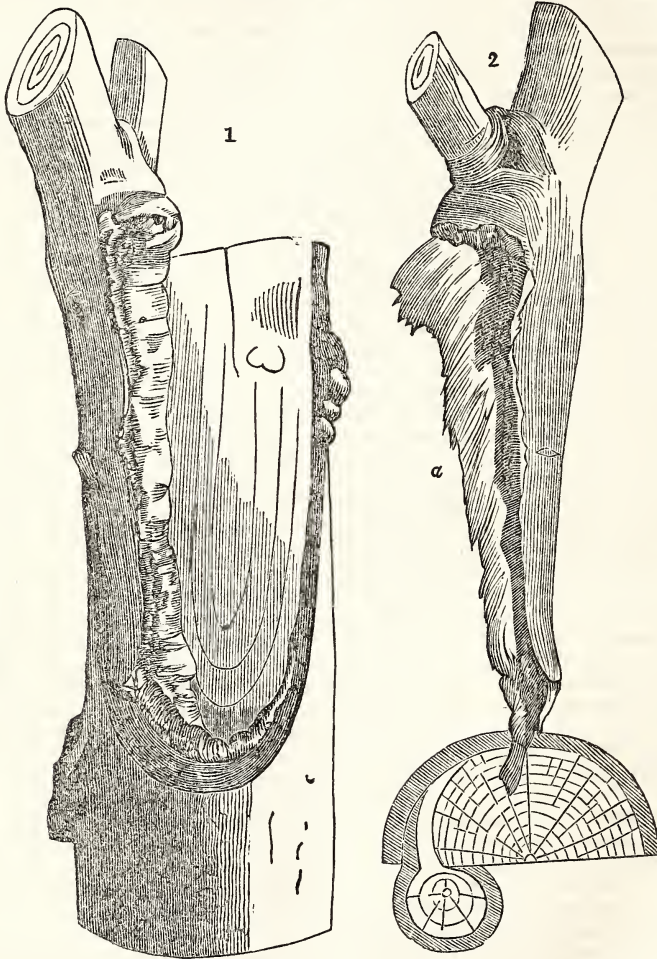
TO MAKE LINEN OR COTTON TRANSPARENT FOR GARDEN FRAMES.—3 pints of old pale linseed oil; 1 oz. of sugar of lead; and 4 oz. of white rosin. The sugar of lead must be ground with a small quantity of the oil, and added to the remainder, and then the rosin is to be incorporated by means of gentle heat.—The composition is to be laid on with a brush after the calico is nailed to the frames. One coat annually is sufficient. It dries in a short time when exposed to the air, and excludes as little light and heat as any thing except glass.

A GRAPE VINE, at Hampton Court, England, last year, bore 1600 bunches of grapes, and continues in a healthy condition.

HOW WOOD IS FORMED.

WHILE examining lately, some specimens of bad grafting we met with the following remarkable case, which will be regarded with no small interest by those who are desirous of learning *how wood is really formed*. A small scion of an apple had been whip grafted upon one side of the cut of a much larger stock, as is shown in the annexed figure, 1. It had apparently formed as strong a union as is usually found in such cases, but upon applying a little lateral pressure, the scion came away, as at 2, bringing with it a considerable quantity

accuracy of their views that wood really descends from above in the form of fully organized tissue. On the other hand, those who adopt the more common opinion that wood is organized where it is found, by organizable matter passing downwards, will see here a confirmation of their theory; while the physiologists who maintain that wood is a mere secretion from the surface of old bark, or old wood, will, it is to be hoped, admit that such a specimen as this is inexplicable upon their interpretation. It is obvious, indeed, that the new wood, 2 *a*, is really derived in either solid or liquid form, from the two branches at 2.



of young wood, 2 *a*. Upon a more minute examination, it was found that this wood had been insinuated between the bark and wood of the stock, as at 3, the wood of the scion having remained quite independent of that upon which it was moulded; it had moreover divided into very fine descending fibres, the broken points of which are shown at 2 *a*. In other words, the scion had formed a woody sheath of its own, which covered over the wood of the stock, and was independent of it.

How is this to be explained? Those who believe with GAUDICHAUD, DUPETIT THOUARS, and others of their school, will accept the specimen as a new proof of the

This is much the same as the case of a Willow, which formed a sheath of wood several feet long over dead wood, and beneath dead bark, where any superficial deposit was obviously impossible. Or it may perhaps, be better compared to the celebrated example of a Rose Acacia mentioned by the late Prof. ACHILLE RICHARD. The Rose Acacia had been grafted on the common Pseudacacia. The stock had died; but the scion had continued to grow, and had emitted from its base a kind of plaster composed of very distinct fibres, which surrounded the extremity of the stock to some distance, forming a sheath, and thus showed incontestably, that it descends from the base of a scion to overlay the stock.

That being demonstrated, it becomes the more difficult to understand how it is that although the wood of a stock is derived from the scion, yet the branches which are derived from that wood are not like those of the scion, but of the stock. In other words, A (the scion) under its new condition of life, does not produce A, but B (the stock).

The true explanation of this puzzling phenomenon, is doubtless, that in our common trees there are two distinct systems of organization, simultaneous in their appearance, coexistent and correal, but independent; the one longitudinal, which is what passes downwards, and the other horizontal; that the first is incapable of producing new roots, and is to be regarded as a mere provision for conveying sap, and for giving strength to a tree; that the latter alone has the power of furnishing new shoots. This latter, called the medullary system, is perpetually growing outwards and fitting on its myriads of extremities to the surface of the wood beneath the bark; so that when a branch is produced it necessarily comes from the horizontal system, derived in the beginning from the stock and not interfered with by the scion.

This is the view that was many years since taken by the writer of the present notice, and we are not aware of any attempt having been made to show its inaccuracy. Dr. HARVEY, in his "Trees and their Nature," does not advert to it; or if he does we have failed to find the place, for which we trust to be excused, seeing that life is not long enough to permit the use of books without an index.

It is not for the sake of puzzling physiological heretics, or for the sake of the orthodox, that this question has been thus revived. The case before us has been fixed to our pages for the sake of the ignorant, or the ill-informed, who have not discovered that to remove the branches of a tree is to paralyze its wood-producing powers; and who sally forth in mid-winter, or indeed in mid-spring, or whenever they happen to think about it, armed with saw and axe, and good brown bills, for the purpose of making a raid upon the plantations under their care. Incredible as it may seem, there are plenty of woodmen who firmly believe that few branches will furnish as much new timber as many. Let us hope that they will reflect upon our Apple tree, repent of their foolish courses, and resolve in future to follow a wiser and better practice.—*London Gardeners' Chronicle*.

WINTER PEARS SHOULD BE KEPT IN BARRELS.

WE make the following extracts from an able article on Keeping and Ripening Fruit in the October number of the *Magazine of Horticulture*. It is written by the editor, C. M. HOVEY, Esq. The experiments are in themselves interesting, and the conclusions which Mr. H. draws from them are worthy of careful consideration:

"We do not intend to deny that some skill is necessary in the successful ripening of the pear. But we do deny that the methods usually laid down are the only correct ones, and that this fruit can be matured only by the routine of practice generally detailed. We mean to assert that the whole process is made unnecessarily troublesome, laborious and expensive, without achieving any better results than can be attained by more simple means. Fruit rooms, for instance, are almost indispensable to every extensive cultivator; the convenience of space for storing and for assorting rendering them of the utmost importance, particularly for the summer and autumn varieties. But that all who cultivate the winter pears must necessarily have a fruit room to ripen them, is the great error.

"Nearly all the experiments which have been made

in ripening pears, have been on a small scale; that is, with a small quantity of fruit, and this divided into many sorts. It has been found that many of the varieties, stored away in ordinary places, have become worthless before the time of their maturity; either shrivelled up or decayed, and hence it has been inferred that our knowledge of ripening has been very imperfect. The ignorance has not been so much in the ripening as in the cultivation; and if the latter had been right, we should have less complaint of the former. A fruit half grown, must necessarily shrivel up, unless extra pains are taken to prevent it; but without inquiring first, whether the cultivation was such as it should have been, we have endeavored to perfect by art what nature never intended we should—that is, to ripen and mature a half grown fruit.

"These views have been forced upon us after long experience in the preservation of a very great number of pears. Anxious to test the qualities of many of the most recent acquisitions, it has been our object to preserve them in the best condition. To do this it was important that we should have a fruit room; we had one constructed, and though it materially aided us in our efforts, we still found it would not ripen many of our fruits. The conviction seemed about to be forced upon us that it would be almost impossible to mature some of them; and repeated trials did not change our opinion, until, in the course of time, the trees flourished and produced abundantly, so that where we formerly had a dozen pears of any particular sort, we now had a barrel, and of all, many barrels; these could not be stored in an ordinary sized fruit room, and we were obliged to secure them as we would apples, in barrels in the cellar. Regretting the necessity of doing this, and fearing we should lose much of our fruit, we from week to week examined the barrels, but found no shrivelling or decay. On the contrary, the specimens were greener, plumper, and fairer than ever; and we were somewhat surprised at this, after the very particular directions laid down in books, *that all pears should be placed on a shelf on the bottom end, so as not to touch each other*, and we began to think that our cellar must be unusually cool to preserve them in such fine order. Winter was well advanced, and yet the pears were firm and sound, with but little change in color, and it was not till Christmas that our Duchesses, Beurre Diels, &c., began to change color and show signs of maturity, and during all January we had an abundance of Lawrence, Winter Nelis, Lewis, Beurre Langlier, &c., &c. * * *

"Last winter an amateur cultivator placed before us some superb Glout Morceaux, about the first of March. We were surprised at their beauty; they were as yellow as a lemon, and retained all the freshness of juice, and exquisite flavor for which they are so celebrated. We inquired what was the secret of his success. Risking a laugh at our expense, he claimed he had a new process, which he thought as valuable and skillful as other methods which had been made a monstrous secret of. However, not wishing to make anything of his art he stated that he had one tree which produced about half a bushel of pears. Having no good place to preserve them, according to the old system, without making a fruit room, which he did not wish to do for half a bushel of fruit, he devised the following plan. He took a good clean barrel and put into it one bushel of Russet apples; then added the Glout Morceau pears, and filled up the barrel with more Russet apples, and then rolled it into the cellar with the rest of his fruit. About the middle of February he opened the barrel, and the pears were still green; thinking it time for them to mature, he placed them in a warm room, and in the course of ten days they were just in a fit state to be eaten.

"This appeared to us a complete illustration of the theory we had thought the true one for the preservation of our winter pears; viz., that there is a natural moisture in the bodies of fruit, which enables them to maintain their freshness to their period of maturity, which no artificial process can retain. A peek of apples kept in a box or upon a shelf in a fruit room, would lose their flavor almost as readily as the pear; this we have proved in our attempt to keep a small quantity of some late sorts. In fact, there is no difference in regard to the mode of keeping the two fruits.

"The whole secret, then, of keeping the pear is to preserve them in barrels; if the quantities are small, let them be put together, with the simple separation of a double sheet of clean, thick brown paper. If the selection of sorts which ripen at the same time is judiciously made, they may all be taken out at once, ripened up in a slightly higher temperature, and produced in all their beauty and excellence. Whoever has hesitated about growing the winter pears on account of the difficulty of ripening, may dispel their fears, if they will try the simple method we have detailed to keep them."

CURRENTS AND GOOSEBERRIES.

The natural habitat of the currant is by the side of swamps, or in damp woods, and chiefly in cold, strong soils, hence, in the cultivation of the currant, we should plant it in cool, and somewhat shady borders, rather than in dry and exposed parts of the garden. Correctly speaking, however, the currant is seldom "*cultivated*" in this country. A few cuttings, with all the eyes in, are stuck in the ground on the side of a fence, and there left, without any pruning, to throw up suckers and grow into a hedge. Nothing that is worth having can be obtained without labor, is a truth which those who expect good currants in this way should ponder. Assuredly they will be disappointed.

To get *good*, large bunches of ripe, good-flavored currants, the bushes should be carefully pruned every year. November is a good time to perform this operation. On old, neglected bushes use the knife freely. Cut out all the old, worm-eaten, black and decayed wood, leaving only that which is green and healthy, and shorten the young shoots according to their strength. The bush should be left as open in the center as possible, in order to let in the sun and air. If the spurs are too thick, as is frequently the case on old bushes, they should be thinned out, retaining the youngest and best situated. All suckers should be cut from round the roots, and planted out if required. They will generally make bearing bushes sooner than cuttings, especially if there are roots to them.

Something may be done to improve neglected currant bushes in this way, but the greatest success can only be attained by beginning with the young plants or cuttings. If you have the varieties you wish to grow, there is no necessity for resorting to the nurserymen for plants, as you can easily grow *better* plants yourself than you will ordinarily obtain from the nurseries.

PROPAGATION BY CUTTINGS.—Before pruning your bushes, or at the time, select out the strongest, straightest, and best ripened shoots of this year's growth, for cuttings. Cut them off square at the bottom, just below a bud, about a foot long. Cut out all the buds for about eight inches from the bottom, and leaving only three or four buds at the top of the cutting.—This is very important, as by so doing the bushes will

not throw out suckers. Then plant the cuttings six or eight inches deep, in a damp, rich soil, in rows twelve or fourteen inches apart, and six or eight inches in the rows. By the following autumn they will be well rooted, and should then be transplanted into rich, well prepared soil, and be allowed more room. The next season they will be fit for planting out permanently.

The best time to strike cuttings is in October, though it will do nearly as well in November. If there are any leaves on them, they should, of course, be stripped off.

In English gardens, the currant and gooseberry are usually planted out in borders by the sides of walks, but in this country they do better when planted out in a cool, and somewhat shady plot of ground by themselves. In this way the roots are allowed to remain unmolested, and top dressing, or liquid manuring can more easily be applied. Previous to planting, the soil should be trenched and heavily manured, digging in the manure as deep as possible. The roots will strike down to the manure, and will be less affected by drouth than when near the surface. If early currants are desired, plant on a light, warm soil; if this is not an object, a heavy loam will produce larger fruit. In either case, the soil should be rich, and if slightly shaded from the hot sun, so much the better. Too much shade, however, is not desirable, for though a larger fruit is obtained, it is at the loss of flavor. Plant about five feet apart each way.

PRUNING AND TRAINING.—Currants may easily be trained as espaliers. A good plan is to carry a branch to the right hand and another to the left of the main stem, about a foot from the ground, and to train the side shoots about 9 or 10 inches apart, in a vertical direction. In England it is not uncommon to grow currant bushes in a circular form by means of a hoop 20 inches in diameter, supported on stakes, and to which the shoots are trained. The advantage of this mode of training is to let in air and light to the leaves and fruit. This system involves too much labor, and as good crops can be obtained from ordinary bushes if properly pruned and trained.

The cuttings the first season usually produce three or four weakly shoots of a few inches only in length. Three of the best of these should be selected, and if nearly equi-distant, so much the better. Remove the tips of the shoots so as to induce them to throw out stronger ones the following season, from which the form of the plant is to be moulded. The next season they will require little pruning, as the transplanting, acting as a species of root-pruning, will induce them to throw out spurs, or fruit-buds, rather than to elongate from their points. The following season all superfluous side shoots should be removed. The leading branches should have a portion of their points cut off annually, in November, to cause them to throw out side spurs. In all cases of shortening, the stronger the shoot the less should be cut off; whereas, in proportion to the weakness of the plant the greater should the reduction be, even often in extreme cases to leaving only an inch or two. As a general rule, the shoots should be shortened back to about seven inches. The leading branches should be carried up as nearly perpendicular as possible. Six main shoots are sufficient to be retained as leaders. The terminal shoots on these should be shortened back to 4 or 6 inches, according to their strength, but when they have extended to nearly the intended height of the

plant, these terminals should be cut back yearly to one or two buds. All the lateral shoots should be cut back to within an inch of their base, at every autumn or winter pruning, for the production of spurs.

These systems of raising currants may seem to involve considerable labor, but in reality this is not the case; and there can be no doubt that the extra size, quantity and quality of the fruit, much more than pay for the additional trouble. When the bushes have attained full size there is little to be done, except to thin out all the decaying old wood, and shorten in the branches every fall, giving the ground a good top-dressing of manure at the same time. We hope no reader of the *Genesee Farmer* will continue the "hedge-row system."

GOOSEBERRIES.—Whether gooseberries are or are not well adapted to this country, we shall not stop now to inquire. We are perfectly satisfied, however, that a cool, moist climate, like that of England, is far better suited to the gooseberry, than the dry, hot climate of this country. This fact, however, should rather stimulate us to increased efforts in its cultivation—or induce us to abandon it. Those who are as fond of gooseberries as we are will join with us in advocating the former course.

Gooseberries delight in a rather heavy, strong, rich soil, somewhat shaded. It is hardly possible to make the ground too rich for them. The mass of testimony goes to show that the richer the soil, and the stronger and more vigorous the bushes, the less likely is the fruit to be affected with the mildew.

Our space will not allow us to enter into the detailed cultivation of the gooseberry, and indeed it is not necessary, as the remarks made in reference to the currant are also applicable to the gooseberry.

CULTIVATION OF FRUIT IN THE WEST.

THE *Prairie Farmer* of Oct. 23d, contains an able article from the pen of E. K. PHOENIX, of Bloomington, Ill., on the "injury done to fruit trees the past winter at the West," from which we make a few extracts:

Practically speaking, the peach, sweet cherry, pear, quince, apricot, &c., in Western Nurseries, must be considered more or less unreliable—and hence, not warranting large investments on plantations as a matter of profit.

But the fruits above named were not alone in suffering last winter—our great staple, the hardy, blessed apple, was terribly scourged, and some of its most valued varieties threatened with total extinction—while others braved it out nobly, and may therefore be pronounced *hardy*. But how serious the loss with those tender kinds, constituting as they did, not only whole rows in our best orchards and nurseries, but often the great bulk of those orchards and nurseries, and *killed outright to the ground!* A calamity which, if it did not happen oftener than once in a generation or even once in a century, were well worth guarding against. Besides, we know not how often it may happen hereafter. The winter of 1831-32, only 24 years ago, we have been reliably informed by old residents, was equally if not more severe than the past.

Obviously, the only remedy is to cultivate mainly the hardy varieties, under those circumstances, as to soil and management that shall most effectually promote their ability to endure cold. Had we, for instance, a collection of varieties throughout, as hardy, say, as those of the Siberian Crab, there need be no fears hereafter of similar losses from the winter, and the

cultivation of the apple might, no doubt, be pushed several degrees north of its present limit * *

A proper selection and preparation of soil should receive our first attention. At the very outset, then, we *utterly protest against low or moist ground* for nurseries or orchards! The importance of this point, considered with reference to our Western soil and climate, *cannot be over-estimated*.

The importance of soil and site we have never seen so forcibly illustrated on a large scale as in the very extensive orchards of Judge Greene, in Cedar Rapids, Linn Co., Iowa, which we had the pleasure of looking through a few weeks since. Here were *several thousand* apple trees, mostly root grafts, planted out five or six years since, in rows, we should judge, over a fourth of a mile in length, reaching from near the top of a high ridge, down a pretty abrupt Southern slope, not only to the base of the ridge, but across a gently inclined "flat," or "bottom," almost to the ravine or water course below. The location was originally, we should judge, in part, at least, hazel brush prairie, skirting oak openings on the ridge, and timber lands on the bottom; the soil on the flat a deep, strong, dark loam—on the ridge, similar, but lighter colored—the whole resting on a clay subsoil. * *

The Judge being an Eastern man, had, very naturally, secured a large number of the most popular Eastern sorts—Baldwin, Greening, Spitzenburg, Newtown Pippin, Roxbury Russet, &c., many, perhaps most of which were planted on the low ground. Here they had struggled on up to last winter, mostly living, but not doing near as well as the same sorts on the slope. Thus standing, that trial winter came and completely finished up and wiped out nearly every tree that was left of those tender sorts, making sad inroads upon the appearance and profitability of the orchard. Trees of the tender kinds up the slope were not all killed outright, and should our seasons prove favorable for a term of years, they may possibly bring some fruit yet, but it would seem impossible for them to become permanently vigorous. Scarcely a variety that we noticed, not even the very hardest, had done as well on the low as the high ground. Of several tender or half hardy sorts on the slope, where a part were root grafted and a part budded upon seedlings, *in every case* that we noticed, the latter were the most hearty and vigorous. Lest we fail to mention it hereafter, we will add here, that of all the sorts in the orchard, none was both growing and fruiting so magnificently as the Fall Orange, of which there was a large number of root-grafts. * * * *

Among other varieties that were fruiting the earliest and most abundantly, were the Jennet, Winesap, Jonathan, Rome Beauty, Talman Sweet, and Pound Sweet.

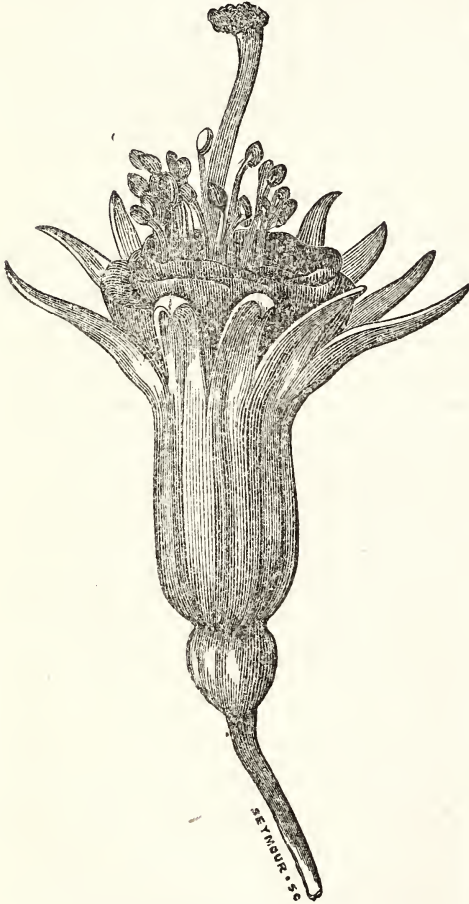
Our Western soil is such a puzzle—though seeming to pass off any surplus moisture almost as soon as a genuine sand, yet still there remains that extreme fineness, and, when moist, a certain softness and adhesiveness that forms through all our vegetable growths a looser, flabbier texture than the gravelly loams of the East—whereof we have often doubted if there was a single acre to be found at the West! Cultivation will doubtless improve the texture of our Western lands, but the greatest benefit is undoubtedly to be derived from *thorough subsoiling and draining*. In this connection, we cannot forbear insisting upon the superior hardihood and productiveness of fruit trees generally in opening or timber lands, as contrasted with those on the prairies. Not that we would discourage planting on the prairies, but, where both were at hand, we should decidedly prefer the timber lands or openings; or, if confined to the prairies, we should take more pains in selecting high, dry ground, as well as in the selection of the hardest and most productive sorts.

Ladies' Department.

HINTS ON THE ART OF DECORATION.

WILL any cunning workman in metals, or carver in wood, or tracer of architectural, domestic, or personal decorations, cast his eye upon this faithful portrait of a flower, and consider whether it does not suggest FORMS and PATTERNS now unthought of.

It is only a Fuschia, but one of rare beauty and unusual proportions. In its natural position it hung downwards, like any other Fuchsia, but we have reversed it, the better to show its form and proportions.



A MONSTROUS FUCHSIA,

Grown at Walton Rectory, near Liverpool, England.

The calyx was a cup with 12 equi-distant furrows, and as many fleshy rays, each the exact counterpart of all the rest; the petals formed a ring of eight short leaves enfolding each other; and the stamens stood erect within them, in a ring of 20 stout threads clustering round a graceful curved central column (style,) set with eight purple jewels at its very end (the stigma.) All this apparatus stood upon a roundish base (ovary) extending downwards into a slender stalk (peduncle.)

The calyx was white, the petals deep rose, the

threads of the stamens white, their anther-heads crimson, the column white, the end deep purple, while the base or ovary and its stalk were green.

The order of the colors was therefore, beginning from below, GREEN, white, DARK ROSE, white, PURPLE, white, DEEP PURPLE. In every case the darker colors are separated and brought out by an intermediate space of white. Had the colors been otherwise contrasted the beauty of arrangement would have been impaired; as for instance, if the colors had been white, white, rose, rose, white, purple, white. But nature would not have produced such a succession of colors. And this may serve to show that those who wish to know how colors are to be contrasted should attentively observe their succession in nature, which always produces beautiful arrangements, although not of what to us seems equal beauty.

But this is not all which the flower before us should teach. It is needless to say that for the purposes of flat decoration what is termed conventional drawing is indispensable; that is to say, instead of representing natural objects as they really are, ideas only are taken from them, perspective is abandoned, and the artist is confined to the arrangement of lines in beautiful patterns. Now it is impossible not to recognize in those designs which are pronounced the most beautiful by persons of refined taste, a very close approach to the forms of natural objects, and most especially to the numerical proportions which parts bear to each other. These numerical proportions are in fact invariable in plants, and it is this, indeed, which renders conventional representations, in which proportion is truly observed, so universally agreeable. The eye is accustomed to them wherever it turns in nature, and recognizes, although no doubt unconsciously, the beautiful forms to which it is accustomed, even when they are reduced to a mere tracing on the wall or a lady's dress. On the other hand it is offended when the rules which determine natural forms are neglected. That this is beginning to be very generally felt is, we think, indicated by the admiration with which the race of Ferns is now so largely received.

In flowers the rule is that all the parts shall be symmetrical; that is to say, there is, as a rule, some fundamental number in which all the parts may be resolved, or in case of this law being departed from, then the symmetry is restored by a variety of simple, yet most beautiful contrivances, into the nature of which this is not the time to enter. The Fuschia, in its unchanged state, belongs to the first or regular class of structures, its fundamental number being four. Thus its ovary contains four cells, its calyx has four divisions, its petals are four, its stamens eight, its stigma four-lobed. Its numerical proportions will therefore be 4 plus 4 plus 4 plus (4×2) plus 4. Upon examining our beautiful monster it will be found that the fundamental number four is still maintained, viz. (4×3) plus (4×2) plus (4×5) plus (4×2) , notwithstanding all the disturbances which its structure has undergone.

Those who believe that truth is the foundation of all beauty, in the material as well as the moral world, will find that the example now before them is one among myriads of facts to which they may refer in defence of the faith that is in them.—*Gardeners' Chronicle*.

SIMPLICITY and genuine unaffectedness are of greater value than beauty.

Editor's Table.

Premiums for Short Essays.

IN the hope of calling out the opinions of the readers of the *Genesee Farmer*, we have determined to offer a BOOK of the value of ONE DOLLAR, for the best article (not to exceed one page of the *Farmer*) on any of the following subjects:

- On the Management of Sheep;
- On the Management of Swine;
- On the Management of Milch Cows;
- On the Management of Horses;
- On the Management of Young Stock and Working Cattle;
- On the Relative Advantages of Employing Horses or Cattle in Farm Labor;
- On Cheese Making;
- On Butter Making;
- On the Cultivation of Winter Wheat;
- On the Cultivation of Spring Wheat;
- On the Cultivation of Rye;
- On the Cultivation of Barley;
- On the Cultivation of Oats;
- On the Cultivation of Peas;
- On the Cultivation of Beans;
- On the Cultivation of Indian Corn;
- On the Cultivation of Broom Corn;
- On the Cultivation of Millet;
- On the Cultivation of Onions;
- On the Cultivation of Crops for Soiling Purposes;
- On Growing Clover Seed;
- On Growing Grass Seeds;
- On the Cultivation of Potatoes;
- On the Cultivation of Turnips, Ruta Bagas, Mangel Wurzel, and other Root Crops;
- On the Best System of Rotation;
- On the Management and Application of Barn-Yard Manure;
- On the Use of Lime as a Manure;
- On the Use of Unleached Ashes as a Manure;
- On the Use of Leached Ashes as a Manure;
- On the Use of Salt as a Manure;
- On the Use of Peruvian Guano as a Manure;
- On the Use of Superphosphate of Lime as a Manure;
- On the Most Economical Mode of Obtaining Fertilizing Matter other than Barn-Yard Manure;
- On any Insects Injurious to the Farmer;
- On the Advantages of System in Farming Operations;
- On the Advantages of Forethought in Farming Operations;
- On Cutting Hay, Corn-Stalks, and other Fodder. for Horses and Cattle;
- On the Best Means of Destroying Weeds;
- On the Management of Permanent Grass Lands;
- On Underdraining;
- On Subsoil Plowing;
- On the Advantages of Stirring the Soil in Dry Weather;
- On Irrigating Grass Land;
- On the Best Means of Destroying Mice, Rats, and other Vermin;
- On the Best Plants for Hedges—Their Management, &c.;
- On the Management of Woodland;
- On Planting Trees on the Prairies, for Shelter, Fuel and Timber;
- On the Management of a Prairie Farm—Commencing in its Natural State;
- On the Best Method of Fencing a Farm;

- On the Benefits of Agricultural Fairs;
- On the Benefits of Farmers' Clubs, and the Best Plan for their Organization;
- On the Influence of Agricultural Papers, and the Duty of Farmers to Write for them.

HORTICULTURAL SUBJECTS.—On the Cultivation of Pears;

- On the Cultivation of Apples;
- On the Cultivation of Peaches;
- On the Cultivation of Plums;
- On the Cultivation of Small Fruits—Strawberries, Raspberries, Currants, Gooseberries and Blackberries;
- On the Cultivation of Cranberries.

The advantages of shelter for Gardens, and the best means of providing it;

For the best answer to the question, "Why do Farmers so generally neglect their Gardens? and the best means of rectifying the evil;

For the best answer to the question, "Is the Cultivation of Fruit on a more extended scale desirable?"

On the Management of a Farmer's Garden;

SUBJECTS FOR THE LADIES.—For the best Dozen Domestic Recipes;

On the Cultivation of Flowers;

For the best reasons why our Agricultural Societies should *not* offer premiums for a public exhibition of Lady Equestrianism;

For the best article on the other side of the Question;

For the best answer to the question, "Is a residence in the Country or City most conducive to high mental culture, beauty of person, health, happiness and usefulness?"

For the best answer to the question, "Is it right to ask the women folk to milk the cows during the busy season? (*Open to both sexes!*)

On drying Apples, Peaches, Plums and other Fruit;

For the best answer to the question, "What can mothers and daughters do to make farm life attractive to their sons and brothers, and prevent them from leaving the farm to engage in mercantile or professional pursuits?"

It is desirable that the articles be as *short* as possible.—It is far more difficult to write a short article than a long one; and other things being equal, brevity will be considered as a mark of excellence. Write only on one side of the paper, and be sure and do not have the lines too close together. Many persons, to save a cent's worth of paper, put us to a dollar's worth of trouble in preparing their manuscript for the printer, and all because it is written too closely. Those who are not in the habit of writing for the printer, should write on ruled paper, and skip every other line.

The articles will be submitted to competent judges, and the premiums announced and paid as soon as they make their decision.

HEREFORD CATTLE.—We have received an interesting communication from WM. H. SOTHAM, the well known Hereford Breeder, giving the weights of some of the prize Herefords, and the prices obtained for them in England. The length of the article and the press upon our columns prevent its publication this month. We may give the main facts at a future time. We have had some experience with the Herefords, and like them much, but think it can hardly be doubted that the Short Horns mature earlier; though possibly, for the amount of food consumed, the Herefords may afford most meat—and of a better quality. If this point has been proved by actual comparative experiment, our friend SOTHAM will know all about it, and we should be glad to hear from him.

THE NEXT VOLUME OF THE GENESEE FARMER.—Encouraged by the greatly increased circulation of the *Farmer* the present year, we have determined to make great improvements in our next volume, and also to offer an enlarged list of premiums.

By a little timely effort, our friends will enable us to double our circulation the coming year. The old prejudice against "book farming" has in a great measure died out, and there are very few farmers who would not willingly subscribe to an agricultural paper, were they requested to do so. The *Genesee Farmer* is so cheap that all can afford to take it, even though they already subscribe for several other papers.

At many post offices, we have but one or two subscribers. Will not such read over our liberal list of premiums, in the advertising columns, and then get us up a club? There is no way in which a young man can more easily obtain a good agricultural library.

We will gladly send show bills and specimen numbers to all who are disposed to act as agents.]

We have never before offered "January Premiums." Thousands of our readers do not subscribe until the winter is nearly past, and we find that the number of such is increasing every year. To counteract this, we offer these January premiums. Those who take a January premium can also compete for the April premiums. There are so many premiums offered, that no one who tries can fail to take at least one, and may obtain two.

All our friends who act as agents, do it simply with a desire to promote agricultural and horticultural improvement in their respective neighborhoods. Hence it is that so few compete for the premiums. So few, indeed, make any effort to obtain the premiums, that we have thought of discontinuing them, but have concluded to offer them once more—and to greatly enlarge the list. Let all who wish for a good Agricultural Library make a little effort to get subscribers for the *Genesee Farmer* for 1857, and they shall have it, and one which they will not feel ashamed of.

Now is the time to commence making up your list, before other agents take the field.

CHINESE POTATO.—We had the pleasure of tasting a cooked tuber of the *Dioscorea batatas* at the late National Agricultural Fair at Philadelphia. It was very palatable. To our taste, so far as flavor is concerned, it will make a good "substitute for the potato." The tuber was furnished by W. R. PRINCE, of Flushing, N. Y., and was very large—we should think about nine inches long and an inch and a half in diameter. The *Dioscorea* has risen a hundred per cent. in our estimation, though we are yet to be convinced that it is as hardy and as productive as some of its advocates for general cultivation claim. We shall be glad to hear from those who have raised it.

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY, for 1857, will be out in a few days. It is an elegant number, full of valuable matter to all interested in rural pursuits. Sent, postage paid, for 25 cents.

In clubs of eight, we send the RURAL ANNUAL and GENESEE FARMER for Fifty Cents! Can any one desire cheaper reading? Five hundred and twenty-eight pages for half a dollar!

TO OUR CANADIAN FRIENDS.—We shall continue to pre-pay the American postage on our next volume. So that, as agricultural papers (that contain no news) go free in Canada, you will get the *Genesee Farmer* free of all postage.

HORSE EXHIBITION AT BOSTON.—The grounds on which the meeting of the United States Agricultural Society was held at Boston, in 1855, have been rented by the recently formed "Boston Agricultural Association," and a great Horse Show was held under the auspices of this Association, Oct. 21-24. Premiums to the amount of eight thousand dollars were offered! The prizes were offered principally for the fastest horses. Not being able to attend, we condense the following account from the *Country Gentleman*:

"Each day was opened by a cavalcade of all the horses shown, the turn-out on Tuesday and Thursday mornings being especially fine. The programme for the morning of the first day included thorough bred Stallions and Mares, Breeding Mares and Fillies, and Ponies—in which, especially the two classes first named, the show was very fair. After dinner occurred the first trial of speed—open to all trotting stallions, geldings and mares, over five years old, that had never trotted for money. Mile heats, best two in three to harness—three to start—1st premium \$125; 2d, \$50; 3d, \$25. Six entries—prizes awarded as follows: First to 'Lightfoot,' owned by R. L. Flanders, Roxbury—2d, 'Lady Stewart,' J. L. Brown, Canaan, Vt.—3d, 'Yankee,' A. J. Brown, Roxbury—average time for each of the three heats a small fraction above the following figures for the three horses in their respective order, 3.07½, 3.08, 3.09. The second trial followed, open to all trotting geldings and mares. Mile heats, best three in five, to harness. The prizes were: First premium \$150; 2d, \$75; 3d, \$50. Three entries—prizes and time as follows:

1. 'Lady Moscow,' S. McLaughlin, time: 2.40—2.41—2.39½—
2. 'Meddlesme,' D. Mace,..... 2.42—2.43—2.40
3. 'Telemachus,' E. Carpenter,.... 2.41—2.42—2.43

The great event of the second day was the grand trial of speed—to harness—between 'Hiram Drew' and 'Ethan Allen,' for prizes of \$1000 to the first and \$100 to the second. The match was confined to not more than three horses, but only two entries were made, viz:

Dan. Mace names 'Ethan Allen',.....	1	1	1
Warren Peabody names 'Hiram Drew',.....	2	2	2
Time:—2.44½—2.40½—2.40.			

The great event of the third day was a match between 'Flora Temple' and 'Lancet,' (formerly 'Know Nothing,') for a prize of \$1000; the second \$200. Mile heats—best three out of five, to harness. The following was the result:

'Flora Temple,' J. D. McMann, New York,...	1	1	1
'Lancet,' S. D. McLaughlin, do,.....	2	2	2
Time:—2.36½—2.40—2.43½.			

A NEW SEEDLING GRAPE.—We are indebted to F. W. FEARMAN, of Hamilton, C. W., for a bunch of grapes from a new seedling called the *Canadian Chief*. It was grown in the open air, and is very large, compact, and well shouldered. Berries round, medium size, and of white color, not fully ripe. In regard to its flavor there is a little difference of opinion among those who have tested it here. Some, in whose judgment we have confidence, pronounce it very good, while others consider it only medium. All agree that if it ripens well and proves hardy, it will be a valuable acquisition. The berries and general form of the bunch resemble the old *Sweet Water*, but the bunch is much larger. Nearly all who have seen it here think it a seedling of this variety.

MORE FINE STOCK FOR CANADA.—We are informed that the Cotswold and South Down sheep, Berkshire pigs and Durham cattle, which Mr. F. W. STONE, of Moreton Lodge, Guelph, C. W., purchased the past summer in England—and to which we alluded last month—arrived safely at his farm on the 25th ult.

HOW TO MAKE HENS LAY.—A good woman in the Granite State, who keeps a "henner," says there is nothing like Cayenne pepper to make hens lay. She, therefore, applies a little to their feed about every other day. Eggs are plenty or scarce, she says, according to the feed.

AMERICA AT THE FRENCH EXPOSITION. — The following extract from the speech of JOSIAH QUINCY, Jr., at the Banquet given by the U. S. Agricultural Society at Philadelphia, showing what was done by a Frenchman at the French Exposition — in the utter lack of any American productions on exhibition there — will be read with interest. We wish all our readers could have heard Mr. Q. tell the story.

"Perhaps you would like to know — I know all Americans would, what part America took in this great exhibition. From the summit of the various pinnacles of this building were displayed the flags of every nation that contributed to it, and among the rest was the star spangled banner. It was a long time before I could find out what part America took in the exhibition. We had no cattle, and as they called McCormick's Reaper a *French* American invention, they would not even allow us the credit of that. I met, however, with a great friend of America, M. Vattemare, and he told me that when this exhibition was first organized, the Minister of the Interior came to him and expressed a very great regret that they could not have the banner of America displayed, because there was no exhibition of any of our agricultural products. Upon that hint M. Vattemare went to work and made an exhibition — but such an exhibition, I doubt whether any American ever dreamed of.

"In the first place, there was Georgia, represented by about eight or ten pounds of rice. There was South Carolina, represented by about as many pounds of cotton. There was Vermont, represented by some native woods, cut in the form of books, with the bark upon the back of them. There was Connecticut, represented by a quantity of wooden ware, pails, lemon-squeezers and cocoanut shell dippers. Pennsylvania had no representation at all. But as to the great agricultural State of New York, it was represented by two bottles, one of which contained the oil of wintergreen, and the other the essence of peppermint!

At the conclusion of the exhibition, M. Vattemare, who is as true an American as any Frenchman could be, came to me with his face radiant with delight, and said: '*You laugh at my exhibicione, but I have got von gold medall, two silver medall, and four honorable mentions.*' The rice took the first, and for the honor of the State of New York, the essence of peppermint took the last. So much for our contribution to the great World's Exhibition in honor of agriculture. I mention it here in the hope that whenever again there may be such a call for the agriculturists of the world to assemble, the United States will make a suitable response."

"THE POOR YE HAVE ALWAYS WITH YOU." — There are fewer poor people in America, probably, than in any other country in the world; yet, even here, there are many who are in necessitous circumstances. The European system of begging, except in our large cities, is happily unknown in this country. Americans are too proud to beg, or to receive relief from the "Poor Master"; and hence has arisen that system of relieving our poorer neighbors which is the admiration of every intelligent European who visits this country.

These thoughts suggested themselves to our minds, on receiving from an esteemed friend the following card, with a request that it be inserted in the *Farmer*:

"DONATION PARTY. — The Managers of the Home for the Friendless will be at the Home, corner of Main and Alexander sts., on Tuesday, Nov. 18, to receive visitors, and contributions towards its support. Anything to eat, drink or wear, (except spirituous liquors,) will be acceptable; not even a pumpkin will come amiss."

We objected to publish this, on the ground that nineteenth of our subscribers are hundreds or even thousands of miles from Rochester, quietly pursuing their peaceful avocations in nearly every town and village of our extended country. Nevertheless, wherever you are, kind reader, "the poor ye have always with you," and though you may not be able to send the self-sacrificing managers of our "Home for the Friendless" any of your spare apples, or

pumpkins, yet you will find those in your own neighborhood who would be thankful for such favors.

We hope our readers everywhere will take the hint, and, as Thanksgiving Day and the inclement season of the year approach, remember the poor.

TO KEEP GRAPES. — Cut the fruit with the wood attached to the grape; close the cut end of the shoot with sealing-wax; hang them up in a dry, dark room, with a uniform temperature of about 40°. The bunches must not touch each other, and if any of the berries mould they should be cut out.

MISSING NUMBERS. — We will gladly supply any missing or damaged numbers of the *Genesee Farmer*, to any who wish to preserve the volume.

THE NURSERYMEN are having delightful weather for taking up their trees, and enormous quantities have been sent off from this city within the past few weeks.

THE young wheat in this section, and we believe throughout the West, is looking well, though some complain of dry weather.

THE conclusion of our Report of the American Pomological Meeting is necessarily deferred till next month.

Notices of New Books, Periodicals, &c.

WORDS OF CHEER FOR THE TEMPTED, THE TOILING AND THE SORROWING. Edited by T. S. Arthur. Published by E. Barrow & Bro., Rochester, N. Y.

The title of this interesting volume is a correct index of its character. It cannot fail to have a consoling and beneficial influence on all who read it, especially those who are in trouble or affliction.

THE HILLS OF THE SHATEMUC. By the author of the Wide Wide World. Appleton & Co., New York, 1856.

This is a well-written and interesting story, by an author already favorably known to the readers of this species of literature. The scene of the story is laid principally in a farm-house, and the chief characters are farmers' sons and daughters. The work is one which we can recommend to our readers.

TRANSACTIONS OF THE BOARD OF AGRICULTURE OF UPPER CANADA. — We are indebted to Prof. BUCKLAND for a copy of this interesting work. It is a handsome volume of some 670 pages, and a credit to the publishers, Messrs. THOMPSON & Co., of Toronto. It is the first volume of Transactions published by the Society, and contains a brief history of the origin and progress of the Agricultural Association of Upper Canada, with the Transactions and Reports of the Board of Agriculture, brought down to the close of the year 1855. It also contains several prize essays, some of which are of much interest and value. The work reflects great credit on the able Secretary of the Board of Agriculture, Prof. BUCKLAND, and is an honor to the Province.

Inquiries and Answers.

(E. JAMES & Co., Iowa.) We send the *American Fruit Grower's Guide*, to any address, for \$1.25, postage paid. It is a work very valuable to the fruit grower, and is peculiarly adapted to the West, as it contains descriptions, &c., of many Western fruits, scarcely known at the East. It should be in the hands of every man who wants a good practical work.

(I. W. A., Lobo, C. W.) We would not recommend you to put tar on your Apple Trees, for it is most likely to prove injurious. To preserve trees from the devastations of mice, it has been recommended to apply horse-shoe shaped drain-tiles, sunk about one inch in the ground, all around the tree. Treading down the snow firmly all round the tree has also been recommended, and if it can be done it will prove an effectual remedy.

GRAFTING PEACH TREES.—It is recommended in an old paper, to save all the roots of the large peach trees whose buds have failed, and graft them in the spring. Will this pay? Do they take any more freely on roots than on the natural stock? J. L. G.—*Milford, Ohio.*

Grafting on the Peach is not desirable. It may be done, but is hardly ever practised, because budding is the easiest and best method of propagating the Peach, as well as all other stone fruits.

BIENNIAL RYE.—Having seen various advertisements about biennial Rye, I would inquire through the columns of your valuable journal, whether you or any of your correspondents have had any experience with it; and if so, I would like to become acquainted with some of its properties: whether it is a cereal or grass,—the manner in which it is grown,—how far north it can be grown,—and how much can be raised on an acre of ground; also the kind of soil best adapted to its growth. By answering the above you will perhaps confer a favor on many of your readers. HENRY ALFATHER.—*Berlin, Penn.*

COTSWOLD SHEEP.—Can you inform me where I can get a good Cotswold buck—one that I can depend upon as being thorough-bred? In your notice of the Provincial Fair of Canada West, you mention the Cotswolds of Mr. F. W. STONE, with high commendation. Do you know whether he has any for sale, and at what price?—H. A.—*Seneca Co., N. Y.*

You can get just what you want from Mr. STONE. His Cotswolds, and indeed all his stock, are of the highest order. He has a fine lot of recently imported shearing Cotswold rams for sale, and you may depend upon getting one that will please you. We do not know at what price he sells them. By addressing Mr. F. W. STONE, at Moreton Lodge, Guelph, C. W., you can learn full particulars.

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

MORGAN HORSES.

A PREMIUM ESSAY on the Origin, History and Characteristics of this remarkable

American Breed of Horses.

Tracing the Pedigree from the original Justin Morgan, through the most noted of his Progeny, down to the present time. With numerous Engravings. To which are added,

Hints for Breeding, Breaking, and general Use and Management of Horses, with practical directions for Training them for Exhibition at Agricultural Fairs. By D. C. LINSLEY, Middlebury, Vt.

Price, One Dollar—Sent free of postage.

C. M. SEXTON & CO., Agricultural Book Publishers,
Nov. 1—1t* 140 Fulton street, New York.

A CHANCE TO MAKE MONEY!

PROFITABLE AND HONORABLE EMPLOYMENT!

THE Subscriber is desirous of having an agent in each county and town of the Union. A capital of from \$5 to \$10 only will be required, and anything like an efficient, energetic man can make from three to five dollars per day; some Agents are realizing twice that sum. Every information will be given by addressing, with a stamp to pay return letter, W. A. KINSLER,
Nov. 1—1t* Box 1228 Philadelphia, Pa., Post Office.

IMPORTANT TO BOOK AGENTS.

THE Subscribers, in addition to their large list of Books for general dealers, are now publishing a

SERIES OF ILLUSTRATED WORKS.

to be sold exclusively by Agents, of a style entirely new in subscription books, rendering them far preferable to anything now in the hands of agents. For full particulars, address

MASON BROTHERS,
Nov. 1—3t. 108 and 110 Duane street, New York.

THE HORSE—MOST NOBLE ANIMAL.

THAT indefatigable laborer in behalf of true Veterinary Science, Dr. GEORGE H. DADD, has in press, to be published by us during the winter, the most superb work on the Horse ever published in the world, entitled,

THE ANATOMY AND PHYSIOLOGY OF THE HORSE.

In one large octavo vol. of 300 pages. Illustrated with 20 superb Anatomical Plates of the Horse, from a great French work.

Price, with colored plates,.....\$4

“ with uncolored plates,.....\$2

Orders for this elegant and valuable work in advance of publication, are solicited by the Publishers.

Also, just published, the eleventh thousand of

THE MODERN HORSE DOCTOR,

By Dr. GEORGE H. DADD,

Undoubtedly the best work ever issued from the American press on the Causes, Nature and Treatment of Diseases and Lameness in Horses. Price \$1.

Every man who owns a horse should own this book.

JOHN P. JEWETT & CO., Publishers,
Nov. 1—4t. 117 Washington street, Boston.

ANDRE LEROY'S NURSERIES, AT ANGERS, FRANCE.

M^R. ANDRE LEROY, Member of the principal Horticultural and Agricultural Societies of Europe and America, and lately promoted by the French Emperor to the rank of Knight of the Legion of Honor, for the best Nursery products exhibited at the World's Exhibition at Paris, begs leave to inform his friends and the public, that he has just published his new Catalogue for 1856, being more extensive and complete than that of any similar establishment on this Continent. It contains the prices, &c., of all the Fruit, Ornamental and Evergreen Trees, Shrubs, Roses, Camellias, Stocks, Seedlings, &c., &c., with the necessary information for importing the same. His experience in putting up orders for America, and the superior quality of his plants have been too well appreciated during a period of ten years, to require other comment. The Catalogue can be had on application to the undersigned Agent, who will also receive and forward the orders.

Mr. A. Leroy is happy in being able to state that his Nurseries were not reached by the inundation which so recently devastated a portion of the district in which they are situated.

ANDRE LEROY, Angers, France.

F. A. BRUGUIERE, Sole Agent,
138 Pearl street, New York.

Oct. 1—4t.

FOR SALE.

HAVING to devote my time to other business, I have determined to sell several Farms, now in cultivation under my own direction, and also a Grist Mill and Saw Mill. The mills are situated about six miles from the county seat, in a thickly settled portion of the country, on never failing streams, and healthy locations. There are two run of stones in the Grist Mill, together with all the machinery for manufacturing flour, buckwheat flour, corn meal, &c. The mill is 60 by 40 feet, three stories high, with a 16 foot wheel. The Saw Mill is run by a submerged center discharging wheel, cast gearing; and the Mills, within 80 feet of each other, are run by different streams, and were built in 1851. There is attached to the mills about 200 acres of land, part of which is in cultivation in grain and grass. There are four tenements on the land, rented out; three of them, without any land, pay \$100. The mills are under my own direction, and the miller rents the farm, and pays crop rent. The mills rented last year for \$400. There is a large portion of bottom land on this farm which is valuable. The Alexandria, Loudoun & Hampshire Railroad passes within 100 yards of the mill, where there is to be a station, &c.

I also have a Farm of 100 acres adjoining the county seat, well improved, good house of brick, orchards, well watered, and all the necessary outbuildings. The Menassas Gap Railroad passes through the village, and also a turnpike road to Washington and Alexandria, which are distant about 15 miles. I have also another Farm of 100 acres, within three-fourths of a mile of the county seat, one half of which is in timber, and the other in cultivation. I am building a house on this, which will be finished by fall. I have also one other Farm of 120 acres, lying about four miles from the county seat, in cultivation by a Northern man, who has resided on it three years.

I will sell any or all of these Lands, &c., on reasonable terms. Persons desiring further information, can address the undersigned at Fairfax Courthouse, Va., who will give information, if desired, relative to his own or any other lands in this or the adjoining counties.

May 1, 1856—4f.

GEO. W. HUNTS, JR.

Genesee Farmer for 1857.

One more number completes the present volume of the *Genesee Farmer*. Our circulation this year has been nearly doubled. Encouraged by this success, we have determined to make great improvements in the next volume, and to spare neither labor nor expense in our efforts to make this Pioneer Agricultural Journal still more worthy of that extensive patronage it has so long enjoyed.

The *Genesee Farmer* is not a reprint. Every line is set up for it, and for it alone. We believe this is true of no other *fifty cent* Agricultural Paper in the country. The *Genesee Farmer* is beyond all doubt the CHEAPEST AGRICULTURAL AND HORTICULTURAL JOURNAL IN THE WORLD.—In Clubs of eight, you get THREE HUNDRED AND EIGHTY-FOUR LARGE, AND CLOSELY PRINTED PAGES, illustrated with numerous and costly engravings, for the small sum of *thirty-seven and a half cents*. Surely no farmer, for the future, will be without an agricultural paper. *If there is any farmer who cannot afford to pay so small a sum, we will, on application, make him a present of the paper for a year, for we are certain he cannot afford to be without it.*

The large circulation of the *Genesee Farmer* is mainly due to the voluntary efforts of the friends of agricultural improvement in all parts of the country. We cannot reward them. The consciousness of their disinterested labors must be their recompense. Wishing to do what we can, however, we offer the following

LIBERAL PREMIUMS FOR 1857.

1. To every person who sends EIGHT Subscribers, (at our lowest terms of *thirty-seven and a half cents each*), we will send, postage paid, a copy of our beautiful twenty-five cent book the *Rural Annual* for 1857.

2. To every person who sends us SIXTEEN subscribers, (at our lowest club terms of *thirty-seven and a half cents each*), one extra copy of the *Genesee Farmer*, and one copy of the *Rural Annual*.

3. To every person sending us TWENTY-FOUR subscribers, as above, two copies of the *Rural Annual*, and one extra copy of the *Farmer*, or any agricultural work valued at 50 cents, postage paid.

4. To any person ordering THIRTY-TWO copies of the *Farmer*, as above, three copies of the *Rural Annual* and one extra copy of the *Farmer*, or any agricultural book valued at 75 cents, postage paid.

5. For FORTY, four copies of the *Rural Annual* and one extra copy of the *Farmer*, or any agricultural book valued at \$1, postage paid, or four extra copies of the *Farmer*.

6. For FORTY-EIGHT, five copies of the *Rural Annual* and one extra copy of the *Farmer*, or any agricultural book valued at \$1.25, postage paid, or five extra copies of the *Farmer*.

For larger numbers, books or papers given in the same proportion.

To save expense to our friends, we pay the postage on all these works, and persons entitled will state what they wish sent, and make their selections when they send orders; or if their list is not complete, if wished, we will delay sending until the club is full.

Premiums for the Greatest Number of Subscribers.

In order to excite a little competition among our friends everywhere, as well as to reward them for their voluntary labors in behalf of our journal, we make the following liberal offers. Those who do not get the premiums offered below are sure of the above, so that we have no blanks.

1. FIFTY DOLLARS, in Agricultural Books (at the lowest prices,) to the person who shall send us the largest number of subscribers at the club prices, before the 15th day of April next, so that we may announce the successful competitors in the May number.

2. THIRTY DOLLARS, in Agricultural Books, to the person who shall send us the second highest list, as above.

3. TWENTY DOLLARS, in Agricultural Books to the person who shall send the third highest lists, as above.

4. FIFTEEN DOLLARS, in Agricultural Books, to the person who shall send us the fourth highest list, as above.

5. TEN DOLLARS in Agricultural Books, to the person who shall send us the fifth highest list, as above.

Our object in offering books is to increase their circulation throughout the country. If any prefer the cash they can be accommodated.

CLUBS are not required to be at one post office or sent to one address. We send wherever the members of the club may desire.

We are particularly desirous that our friends SHOULD FORM CLUBS EARLY. There are thousands of our readers who every year put off renewing their subscription till several weeks or even months of the new year are gone by, and who are thus without the paper during the most leisure season of the year. To rectify this as much as possible, we offer the following liberal

JANUARY PREMIUMS!

TWENTY DOLLARS in Agricultural Books, to the person sending us the largest number of subscribers (at the lowest club price of *thirty-seven and a half cents each*), before the *fourteenth day of January*, 1857, so that we can announce the successful competitors in the February number.

FIFTEEN DOLLARS in Agricultural Books to the person sending us the *Second* highest list, as above.

TEN DOLLARS in Agricultural Books to the person sending us the *Third* highest list, as above.

NINE DOLLARS in Agricultural Books to the person sending the *Fourth* highest list, as above.

EIGHT DOLLARS in Agricultural Books to the person sending us the *Fifth* highest list, as above.

SEVEN DOLLARS in Agricultural Books to the person sending the *Sixth* highest list, as above.

SIX DOLLARS in Agricultural Books to the person sending us the *Seventh* highest list, as above.

FIVE DOLLARS in Agricultural Books to the person sending the *Eighth* highest list, as above.

There is not a town in the United States or Canada, where any person, by showing his neighbors a copy of the paper and asking them to subscribe, might not take some of the above January Premiums.

The Premiums will be promptly paid. The Books can be selected by the person taking a premium from the very complete list which we publish in our advertising columns, or we will get any works which are required, and furnish them at the lowest retail price of the publishers.

Persons who compete for the January Premiums can also compete for the April Premiums, and in this way it is not improbable that Two PREMIUMS will be obtained for the same list of subscribers.

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY FOR 1857.—We have made great improvements in the present volume of this work. It is considerably larger than that of last year, profusely illustrated with expensive wood cuts, engraved expressly for the work; printed with new type, on better paper, and the pages surrounded with a neat border; while the originality, practical value and variety of the reading matter are such as to render the *Rural Annual* for 1857 worthy a place at every fireside in the country. Every one interested in rural pursuits should have a copy. Price, 25 cents a copy, postage paid.

THE RURAL ANNUAL AND GENESEE FARMER IN CLUBS.

Every Subscriber to the *Farmer* should have a copy of the *Rural Annual*. In clubs of eight, we send the *Farmer* for one year, and a copy of the *Rural Annual* for fifty cents. In other words, for FOUR DOLLARS we will send *eight copies of the Farmer for one year*, and eight copies of the *Rural Annual*. For EIGHT DOLLARS we will send *sixteen copies of the Genesee Farmer* and *sixteen copies of the Rural Annual*, and one extra copy of each for the person who gets up the Club.

Any person sending us \$3 for a club of eight of the *Genesee Farmer* shall receive one copy of the *Rural Annual* for his trouble, postage paid.

Postmasters, Farmers, and all friends of Rural Improvement are respectfully solicited to obtain and forward subscriptions. Money may be sent at our risk. Address,

JOSEPH HARRIS,

Rochester, N. Y.

BOOKS FOR THE FARMERS!

FURNISHED BY THE PROPRIETOR OF GENESSEE FARMER.

- Morton's Cyclopaedia of Agriculture. Two volumes beautifully bound in Morocco. Price \$22.
- Morton's Cyclopaedia of Agriculture, bound in cloth, \$18.
- Wilson's Rural Encyclopedia. Four vols. (second hand) \$16.
- Rhind's Vegetable Kingdom, with colored plates. Price \$6.
- The Farmer's Guide. By James Webb. Price 87½ cents.
- How to Choose a Milch Cow. Price 62½ cts.
- Smith on the Construction of Cottages. Price \$1.
- The Farm Engineer. By Ritchie. Price \$3.
- Gunn's Domestic Medicine. Price \$3.
- The Cow, Dairy Husbandry, and Cattle Breeding. Price 25 cts.
- Every Lady her own Flower Gardener. Price 25 cents.
- The American Kitchen Gardener. Price 25 cents.
- The American Rose Culturer. Price 25 cents.
- Prize Essay on Manures. By S. L. Dana. Price 25 cents.
- Skinner's Elements of Agriculture. Price 25 cents.
- The Pests of the Farm, with directions for extirpation. Price 25 cents.
- Horses—their Varieties, Breeding, Management, &c. Price 25 cents.
- The Hive and Honey Bee—their Diseases and Remedies. Price 25 cents.
- The Hog—its Diseases and Management. Price 25 cents.
- The American Bird Fancier—Breeding, Raising, &c. 25 cts.
- Domestic Fowls and Ornamental Poultry. Price 25 cents.
- Chemistry made Easy for the Use of Farmers. Price 25 cts.
- The American Poultry Yard. The cheapest and best book published. Price \$1.
- The American Field Book of Manures. Embracing all the Fertilizers known, with directions for use. By Browne. \$1.25.
- Buist's Kitchen Gardener. Price 75 cents.
- Stockhart's Chemical Field Lectures. Price \$1.
- Wilson on the Cultivation of Flax. Price 25 cents.
- The Farmer's Cyclopaedia. By Blake. Price \$1.25.
- Allen's Rural Architecture. Price \$1.25.
- Phelps's Bee Keeper's Chart. Illustrated. Price 25 cents.
- Johnston's Lectures on Practical Agriculture. Paper, price 25 cents.
- Johnston's Agricultural Chemistry. Price \$1.25.
- Johnston's Elements of Agricultural Chemistry and Geology. Price \$1.
- Randall's Sheep Husbandry. Price \$1.25.
- Miner's American Bee-Keeper's Manual. Price \$1.
- Dadd's American Cattle Doctor. Complete. Price \$1.
- Fessenden's Complete Farmer and Gardener. 1 vol. Price \$1.25.
- Allen's Treatise on the Culture of the Grape. Price \$1.
- Youatt on the Breeds and Management of Sheep. Price 75 cts.
- Youatt on the Hog. Complete. Price 60 cents.
- Youatt and Martin on Cattle. By Stevens. Price \$1.25.
- The Shepherd's own Book. Edited by Youatt, Skinner and Randall. Price \$2.
- Stephens's Book of the Farm; or Farmer's Guide. Edited by Skinner. Price \$4.
- Allen's American Farm Book. Price \$1.
- The American Florist's Guide. Price 75 cents.
- The Cottage and Farm Bee-Keeper. Price 50 cents.
- Hoare on the Culture of the Grape. Price 50 cents.
- Country Dwellings; or the American Architect. Price \$6.
- Lindley's Guide to the Orchard. Price \$1.25.
- Gunn's Domestic Medicine. A book for every married man and woman. Price \$3.
- Nash's Progressive Farmer. A book for every boy in the country. Price 50 cents.
- Allen's Diseases of Domestic Animals. Price 75 cents.
- Saxton's Rural Hand-books. 2 vols. Price \$2.50.
- Beattie's Southern Agriculture. Price \$1.
- Smith's Landscape Gardening. Containing hints on arranging Parks, Pleasure Grounds, &c. Edited by Lewis F. Allen. Price \$1.25.
- The Farmer's Land Measurer; or Pocket Companion. Price 50 cents.
- Buist's American Flower Garden Directory. Price \$1.25.
- The American Fruit Grower's Guide in Orchard and Garden. Being the most complete book on the subject ever published.
- Quincy's Mysteries of Bee-Keeping explained. Price \$1.
- The Fruit Garden. P. Barry. Price \$1.
- American Fruit Culturist. J. J. Thomas. Price \$1.
- Downing's Fruits and Fruit Trees of America. Price \$1.50.
- Cole's American Fruit Book. Price 50 cents.
- The Stable Book. Stewart. Price \$1.
- Lindley's Horticulture. Downing. Price \$1.25.
- Munn's Practical Land Drainer. Price 50 cents.
- Ladies' Companion to the Flower Garden. Downing. Price \$1.25.
- Norton's Elements of Scientific Agriculture. Price 75 cents.
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1856.

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JOSEPH HARRIS,

November, 1856.

Rochester, New York.

DO LATE CROPS REQUIRE LESS AMMONIA IN THE SOIL THAN EARLY CROPS?

THE *Journal of the Highland and Agricultural Society of Scotland*, for July, 1856, contains an article on "Agricultural Meteorology and Physiology," by ROBERT RUSSELL, of Kilwhiss, Scotland, the object of which is to show that "when the physiological characters of plants are somewhat similar, the amount of ammonia required in manures is in the inverse ratio to the amount of heat and moisture in the atmosphere during the time the primary organs of plants are developed." To particularize, spring wheat requires less ammonia in the soil than winter wheat, and late sown spring crops than early sown, &c.

Two years ago, Mr. RUSSELL visited this country; and we had the pleasure of accompanying him over several farms in this vicinity. He alluded to this principle of vegetable nutrition at that time, and we believe it was one of the objects of his visit to America to learn how far the facts of our agriculture were in conformity with it. If true, Mr. RUSSELL's law is of great practical importance, and we have looked anxiously for the facts upon which it is based. Mr. RUSSELL is a great admirer of LIEBIG, and has always been warmly opposed to the conclusions which Mr. LAWES draws from his extensive experiments.

Mr. LAWES found that wheat required in the soil much more ammonia for its maximum growth than turnips, clover, peas, beans and tares; while turnips required much more phosphoric acid in the soil than wheat. Mr. RUSSELL seems to admit these facts, and,

so far as we can understand, deduces his law from them.

Having laid down this principle, he argues that barley, oats, Indian corn, &c., do not require as much ammonia for the production of a given amount of nutritious matter as wheat. The experiments at Rothamsted proved that wheat destroys a large quantity of ammonia during its growth; and we have thought it highly probable that barley, oats, and Indian corn, having, like wheat, glassy stems and a starchy seed, did the same; while we knew from the same experiments, that turnips, clover, peas and beans did not. And as ammonia is the most valuable ingredient of manures,—the one most needed for the growth of wheat, and one of which nearly all soils are deficient—we have urged farmers to provide their *cattle food* by the growth of the latter plants, rather than the former. In other words, instead of growing Indian corn or barley, for feeding pigs or cattle, to grow more peas (when the bug does not trouble them); instead of growing oats for feeding sheep, to grow more beans; and instead of timothy, red-top, rye-grass, &c., to grow clover, luzerne, turnips, mangel wurzel, ruta bagas, beets, &c., &c.

We know that wheat requires very much more ammonia for its growth than it contains when grown, and we also know that the same is true in regard to barley—and these are the only two cereal crops on which experiments have been made with reference to this point. In regard to Indian corn, oats, timothy and other grasses, we have always stated that we had no experimental proof that they destroyed ammonia, but thought it was probable that such was the case, from the similarity of their composition and character. We have urged our readers to make experiments to determine the matter, but as yet, nothing satisfactory has been done. The New York State Agricultural Society has offered premiums for such experiments on Indian corn, and we hope to have the question definitely settled in a few years.

If Mr. RUSSELL's law is true, Indian corn does not destroy ammonia, and there is as much advantage in growing corn as food for stock as in growing peas, beans, clover, turnips and other root crops. Turnips do not destroy ammonia, and they require a large amount of available phosphoric acid in the soil; and as Indian corn is planted about the same time as the English farmers sow their turnips, Mr. RUSSELL thinks that it requires for its growth no more ammonia than turnips, and that it would be as much benefited by an application of phosphoric acid or superphosphate of lime.

The question, then, resolves itself into this: Does it require as much ammonia to grow a bushel of corn as a bushel of wheat; and is superphosphate of lime a beneficial manure for Indian corn on a soil where it has no good effect on wheat?

As we have said before, we have no experiments that will enable us to answer the question. It is true that the editor of the *Working Farmer*, who is largely interested in the manufacture of superphosphate, claims that his manure has a greatly beneficial effect on Indian corn, and he publishes certificates to prove it. Mr. RUSSELL seems to have adopted the statements of this superphosphate maker, and to have placed confidence in his certificates. We have looked a little further into this matter than Mr. R. and have no confidence in either the manufacturer or the certificates. The former manufactures—or did manufacture—a worthless article which he sold as “Chilian guano,” and which was said to “come from the coast of Chili,” while it was made in his own factory; and this, to our mind, is sufficient to render dubious any of his statements where self-interest is involved. In regard to certificates of the value of manures, we would refer Mr. RUSSELL to the certificates of hundreds of good British farmers in regard to the value of the “Economical Manure,” and which, in spite of all these certificates, was found to be a worthless compound, and is now acknowledged to be such! Mr. RUSSELL says he learned “while traveling in America” that Indian corn “was largely benefitted by phosphates.” He probably learned it from the certificates to which we have alluded, or from the manufacturers. We have had good opportunities for ascertaining the truth of this matter, and, being deeply interested in the question, have made diligent inquiry from those who have used superphosphate on corn, and have repeatedly written articles requesting information on the subject, in the columns of the *Country Gentleman*, *Albany Cultivator*, and *Genesee Farmer*, and these articles have been copied into most of the respectable agricultural papers in the country, and must have been seen by several hundred thousand of our best farmers; and it was certainly to be expected, under such circumstances, that if Indian corn was “largely benefitted by phosphates,” we should have heard something about it. The fact is, however, that *we have not been able to find a single instance where superphosphate of lime, unmixt with ammonia, has ever been applied to Indian corn or any other crop, in this country.* The superphosphates that are manufactured here have all more or less ammonia in them—all the manufacturers claim to mix considerable sulphate of ammonia and Peruvian guano with their manures—and therefore, even if their superphosphates are beneficial to Indian corn, it does not follow that the good effect is due solely to the phosphates. But from what we can learn, *these superphosphates are not generally beneficial to corn.* Certainly, this crop is not “largely” benefitted by them, and what increase is obtained, may, with as good reason, be ascribed to the ammonia as to the phosphates of the manure, seeing that it contains both. It is true that as a general thing the superphosphate does not contain much ammonia, and it is also true that it does not generally produce much effect on the corn crop.

So far as American farmers are concerned, the statement of Mr. RUSSELL will do no harm, but with British farmers the case is quite different. It is true they are not interested directly in the question, as

they do not raise Indian corn, but if it were proved that Indian corn was “largely benefitted by phosphates” on land where they had no effect on wheat, and did not require more ammonia for its growth than it contains when grown, Mr. RUSSELL’s law would have one fact to rest upon, and the advantages of the present system of rotation and manuring in England, would be, at least, doubtful. American farmers are too well acquainted with the “man of phosphates” to be led astray by the article of Mr. RUSSELL, but our British brethren are necessarily ignorant of the facts of the case, and it is for their sakes that we endeavor to correct his statements.

The statement that “in America, Indian corn is largely benefitted by phosphates,” we have shown to be *without the slightest foundation in fact.* Another of Mr. RUSSELL’s strong points is thus stated: “A field which would only raise 20 bushels of wheat, in America, would raise from 40 to 50 bushels of Indian corn.” It is quite true that an average yield of corn per acre in this country, is double that of wheat; but it must be borne in mind that Indian corn is planted on our richest soils, and does best on alluvial “bottoms” abounding in azotized, organic matter. In Western New York and Western Canada—the best wheat land on the continent—Indian corn is not generally planted on the best wheat soil, but rather on that too low and wet, or too loose and rich for wheat. Some time since, we were on one of the farms on the Genesee river, where 40 to 50 bushels of Indian corn is usually obtained without manure, by good tillage.—There was then growing on one of these fields a magnificent crop of wheat, with straw enough to produce 50 bushels per acre. On asking the farmer if he raised much wheat on these rich bottom lands, he replied that he sowed a little every year, and that in a dry season he obtained a great crop, but in a wet one he got nothing but straw—the land was too rich.—In a dry season, *this land produced as much wheat as Indian corn.*

Since the appearance of Mr. RUSSELL’s article, we have asked several of our best wheat-growing farmers this question: “Supposing you had one of your best wheat soils prepared for wheat, and were accidentally prevented from sowing it, and planted it with Indian corn the next spring; would you get as much again corn to the acre as you would have had wheat?” They have all answered, “No. We should get little, if any more corn than we should have had wheat.” Farmers in this section, seldom, if ever, manure their land for wheat; they *generally apply it to Indian corn.* Then, again, Indian corn is planted in rows three to four feet apart, and horse-hoed repeatedly during the summer. This constant stirring, by admitting light and air, decomposes the organic matter of the soil, and renders available more ammonia for the corn plant than the soil would have furnished the wheat crop, which, in this country, is never hoed. So that, even supposing that a little more corn is produced on the same soil than wheat, it does not follow that more ammonia is required for the production of a bushel of wheat than for the production of a bushel of corn.

If there are any facts in British agriculture which sustain Mr. RUSSELL’s law, he has, we think, failed to produce them, and certain we are, that the facts he cites from American agriculture, and which he says are “in beautiful conformity” with it, are no facts at all.

WINTER IN PROSPECT—DECEMBER.

WINTER, stern and chilling winter, is upon us, with all its glories and all its terrors. December is the last—the old age—the grave of the year. The sun rises late and sets early. Dark clouds obscure the sky—howling tempests greet the ear—blast follows blast, and the dismantled groves moan and roar. Nature is stripped of all her summer drapery, and bound in icy fetters—her verdure, her foliage, her flowers, have all vanished. The sky is filled with dark clouds and gloom, or sparkles only with a frosty radiance; the fast falling snow is filling the road and blinding our eyes, and the frozen earth yields no sustenance to animals. The trees are stripped of their rich foliage—they are desolate; the voice of the song-bird is heard there no more—the winds whistle through their leafless branches, and Old Boreas is playing bo-peep around the corners, and sings a requiem to the dying year. The earth is bound in icy fetters, or buried in snows. The winds that in summer breathed gently over nodding blossoms and undulating grass, swaying the leafy boughs with pleasant murmurs, and wafting perfumes all over the world, now hiss like serpents, or howl like wild beasts of the desert—cold, piercing, and cruel. Every thing has drawn as near as possible to the centre of warmth and comfort. The farmer has secured his crops, and has driven his flocks and cattle into sheltered home enclosures, where they may receive from his provident care that food which the earth now denies them; or into the farm-yard itself, where some honest Giles plies their racks plentifully with fodder. The laborer has fled from the field to the barn, and the buzzing of the threshing may be heard afar off. The measured strokes of the flail are heard no more.

It amazes us as we walk abroad, to conceive where can have concealed themselves the infinite variety of creatures that sported through the air, earth, and waters of summer. Birds, insects, reptiles, whither are they all gone? The birds which filled the air with their music—the sweet notes of the robin, the loud and cheerful thrush, the lark and the song sparrow—whither have they gone? The squirrel that played his antics on the forest trees, and the varied tribes of the gaudy, showy butterflies, glow-worms, dragon-flies, moths, beetles, bees, wasps and hornets,—whither have they fled? Some, no doubt, have lived out their little term of being, and their bodies—lately so splendid, active, and alive to a thousand instincts, feelings, propensities—are become part and parcel of the dull, wintry soil; but the greater portion have shrunk into the hollows of trees and rocks, and into the bosom of their mother earth itself, where, with millions of seeds, and roots, and bulbs, they live in the great treasury of Nature, ready at the call of a more auspicious season, to people the world once more with beauty and delight.

Once more our planet has completed one of its journeys in the heavens, which perfect all the fruitful changes of its peopled surface, and mete out the few days of our existence; and every day, every hour of that progress, has, in all her wide lands, in all her million hearts, left traces that eternity shall behold.

If there be a scene to stir in our souls all our thankfulness to God, and all our love to man, it is that of Nature. When we behold the beautiful progression of the seasons,—when we see how leaves and flowers burst forth and spread themselves over

the earth by myriads in spring—how summer and autumn fill the world with loveliness and fragrance, with “corn and wine,” it is impossible not to feel our hearts “breathe perpetual benedictions” to the great Founder and Provider of the world, and warm with sympathetic affection towards our own race, for whom He has thought fit to prepare all this happiness. There is no time in which we feel these sentiments more strongly than when we behold the moon rising over a solitary summer landscape. The repose of all creatures of the earth makes more sensibly felt the incessant care of Him who thus sends up his “lesser light to rule the night,” and to shine softly and silently above millions of sleeping creatures, that take no thought for themselves.

We have traveled with the year, from month to month, and the year has traveled with us. It has brought to us the verge of December, and winter. Our month in prospect is the only month left to complete the year and calendar. Frost, the harbinger of whole months of settled cold, has given us unmistakable evidence of a visit, and warns us to barricade our premises against his intrusion. Once more, therefore, we may look for frosts, sleet, hail, snow, and the sharp salute of keen “northwesters.”

Now let us examine the other side of the picture. Nature has been both bountiful and kind to the farmer. His garner is well filled, and his heart gladdened by the unfailing beneficence of Providence. Dwelling constantly in the presence of Nature, and beholding the seasons in their round, he drinks unconscious joy from the magnificence of earth and sky, while the continued abundance which loads his board, and the happy peace of his home, fill his heart with a sense of satisfaction.

In the country, the farmer with his crops all in, his cattle in their stalls, or at the crib, calls his friends about him, and whence such social, jolly dinners? The sound of the flail is his music, and the talk of the markets is his felicity.

To the young, and strong, and healthy, how beautiful and charming is winter. The clear, sharp, bright days, how they brace the nerves! How they make the blood bound! What a feeling of pleasure lives through the heart and the whole being! The splendid heavens at night, the moon, how beautiful! The snow in its abundance, the hoarfrost in its silent magnificence, the ice-bound lake and river, with their throngs of sliders and skaters! The merry bells, the sleigh-ride—all, all combine to render the season pleasant and deprive it of its terrors.

And then comes Christmas—“merry Christmas”—with all its roast turkeys, chicken-pies, krullers and dough-nuts—such feasting for those who can get them!—then comes, anon, a “Happy New Year.” Happy indeed are those who have no cause to regret the passing of the present year.

We will now take a retrospective view of our farming operations during the preceding part of the year. By scrutinizing what we may have done—looking closely into all our proceedings connected with our business—by comparing results—by minutely examining into the various modes of culture pursued by us in our improvement of the soil, and noting the cost and effects produced, we may not only be able to arrive at something like a definite opinion as to the value of our labors, but discover wherein those labors have been fruitful, or barren of reward; detect errors, if any have been committed, and correct them

in the future. By resorting to this retrospection, if we will bring to our aid that critical observation which long practice qualifies us to make, we may be enabled to improve upon our former modes, and thus introduce a more judicious system of culture,—one having for its object the melioration of the soil upon those principles of agricultural philosophy and enlightened economy, which conduce alike to the permanent improvement of the arable land, and the securement of the greatest amount of good, with the least expenditure of labor and means. These observations should always be held in active appreciation by all farmers who desire to be successful, as it is a truth that there is no class of society more dependent upon the exercise of far-sighted economy than they, for the acquisition of those elements of wealth which vouchsafe comfort to the homestead.

In speaking of economy, we do not mean that contracted kind that would shut the door against that generous hospitality which brings neighbors together upon the broad platform of brotherhood, and imparts to life its most enchanting charms; but that *true economy* which husbands means and directs them to noble ends,—which in the application of fertilizers, adapts them to the peculiar necessities of the soils of our several fields—which garners up manure from every available source, and preserves it from the deteriorating effects of the weather, and which, in the *setting and cultivation* of our crops, is always timely and never out of season.

And now, since the "summer is ended," and fall has passed, let us return thanks to an all-wise and beneficent Providence, for the bountiful crops he has seen fit to bestow on us; and let our hearts be impressed with a high sense of gratitude for crowning our labors with success; let us not forget that kindness to our domestic animals is as much our duty as its performance will prove our interest; that in proportion to our attention in feeding them well and keeping them warm, will they increase in value. C. N. BEMENT.—*Po'keepsie, Dec. 1856.*

TURKISH FLINT WHEAT.—The *Patent Office Report* for 1855, says: "The Turkish Flint Wheat, from near Mount Olympus, in Asia, a hardy Fall variety, with a dark-colored chaff, a very heavy beard, and a long, flinty, light-colored berry, will prove highly profitable to the farmer and miller, from its superior weight and the excellence of the flour it will produce. It appears to be well adapted to the soil and climate of the Middle States, and has even improved in the quality of its grain, both in regard to its color and size. It withstood the severity of the past winter without much injury from the cold; and, from its very long and thick beard, it doubtless will be protected, in a measure, from the depredations of insects in the field. The hardness of the grain, too, when dry, is a sufficient guaranty against ordinary moisture in transportation, and the perforation of the weevil in the bin."

TO DESTROY WEEDS.—The best method to destroy weeds, is to keep annuals and biennials from perfecting their seeds, and you are done with them in two years. Perennials must also be kept from seeding and their roots cut up with the hoe frequently. Eternal vigilance is the watchword in war on weeds, and perseverance is the true passport to successful victory.

BENJ. F. BARTOLET.

NOTES ABOUT CORN.

EDS. GENESEE FARMER:—Having planted several varieties of corn this year, perhaps a few notes on their peculiarities, yield, &c., may interest my brother farmers. At any rate, I should be glad to hear from them on such subjects, and hope they may "make a note" of many facts for your paper.

EIGHT-ROWED YELLOW.—For a field crop I planted this old stand-by. I have tried "White Red-Blaze," the yellow twelve-rowed, and a pure white variety, but came back to the eight-rowed, better satisfied with that. It yields, with us, about 50 bushels per acre, though this year, from the drouth, and the labors of mice and squirrels through the season, we have to take up with about 36, and considerable soft corn at that. I hope never again to plant in June—the last of May is full late.

THE BROWN CORN.—I planted a quart of the "Improved King Phillip, or Brown Corn," but by an accident, am prevented from giving any account of the number of bushels which grew from it. It was planted the 6th of June, and ripened in about fourteen weeks—a large proportion of good-sized ears. This corn will prove most valuable for planting in situations exposed to early frosts—such as are found on almost every farm. We had a frost on our lowest ground three weeks before it fell on higher, and six weeks before the whole farm was frost-bitten. The King Phillip would have succeeded in the first named spot, while the common corn would have been cut just in the milk, as some fields were in this neighborhood.

STOWELL'S EVERGREEN SWEET CORN.—My patch of this variety, planted with seed from a city seed store, failed to come up, with the exception of three or four stalks that grew all summer and ripened no corn at last. I re-planted with an early kind, and had plenty of fine ears for boiling as long as it lasted, and until the field corn was fit for use. The "Stowell" must grow very large where it has a chance, and yield an immense amount of fodder on rich soils.

WHITE FLINT.—From the Patent Office I received a small package of corn of this name, labeled, "from Spain." I planted it early in May. It grew well, and produced about a bushel of large, short ears, generally well filled. The stalks were tall, with broad, harsh leaves, and the ears "well up in the world."—It was the toughest corn to husk I ever tried, and might be a good kind to plant at the West, where they sometimes leave corn on the stalks over winter.

RICE POP CORN.—The best "pop corn" I ever raised is the "Rice," with pointed kernels, more resembling grains of wheat than corn. It parches finely, very crisp and tender, and forms a fine addition to our winter luxuries. A. S. B.—*Niagara Co., N. Y.*

WHEAT TURNING TO CHESS.—Some years ago, I cleared and sowed to wheat a field containing seven acres. The fall following I harvested a crop of fair, clean wheat. The same fall I burned the stubble on the ground (which left it perfectly clean and mellow) and sowed six acres to Rye; the remaining acre was sown to wheat. The next harvest I had a good crop of Rye, and no chess in it, but the acre that was sown to wheat produced about one and a half tons of chess, which I mowed and saved for fodder, but there was not one hundred heads of wheat in the whole of it. SETH STANCLIFFE.—*McKean, Erie Co., Pa.*

TWO CROPS AND HOW THEY PAID.—A CHAPTER FROM EXPERIENCE.

LOOKING only on the favorable side of any business illy prepares us to judge its darker shades dispassionately. Agricultural papers frequently treat their readers with statements going to show the *paying* character of farming; only occasionally has the *dark side* been turned outward, and then with all the apologies and excuses which the case would warrant. I own to a liking for the brighter picture, but in *real life* there is many a deeply shaded one—it may be well to give samples, also, of these. I do not think my case a very hard one—for there are many *much* worse—and shall refer only to a single field of three acres, and to its crops the past and present year.

The lot in question is a clayey loam—perhaps half an acre is quite clayey; the remaining two and a half are quite loamy, with plenty of small cobbles. It had been a long time in cultivation, and in condition was well worn when it came into my possession. My first object was to improve it as far as I could, and make it “pay its way.” I thought if I put all the profits to improving my land, it would be all that could be asked by the most progressive agriculturist. I had muck on an adjoining lot, and could get a quantity of leached ashes three miles distant at eighteen pence a load. As a first crop I concluded to try corn, as it would give a chance for summer culture, and tend to the improvement of the soil.

The plowing was well done, and as early in the season as the weather would permit, and only half the field was mucked and ashed, that the corn might be planted in season. The culture was all that the extreme rainy season would allow, and the crop did much better, especially on the manured part, than any previous crop had given us reason to expect. But an early frost came and cut the corn before it was ripe. The stalks were secured in good order, and the account stands as follows:

Dr.	3 days drawing and spreading muck,.....	\$7.50
	12 loads ashes and drawing same,.....	9.75
	2½ days plowing and harrowing,.....	5.50
	2 days planting seed, &c.,.....	2.00
	6 days cultivating and hoeing,.....	5.50
	½ day top dressing with ashes,.....	.50
	17 days harvesting, husking and stowing,.....	12.50
	Interest and taxes at \$40 per acre,.....	9.00
		\$52.50
Cr.	42 bushels (ears) sound corn at 31 cents,....	\$13.08
	85 do do soft do 19 do	15.94
	Stalks sold for,.....	19.00
		\$48.00
		\$4.50

This only falls short \$1.50 per acre of paying expenses; or charging one-half of muck, &c., to next crop, as I think should be done, it pays \$1.50 per acre. Had the season been more favorable, and a little longer, I should have had one-third sound corn, and a corresponding increase of profit. However, we take things as they are, and not as they *might have been*.

The present year the remainder of the lot was dressed with muck and ashes—the latter unleached—and sown to barley. The expenses, calculating them from actual data, as before, were \$48.00. The product, 30 bushels of barley, worth \$33.75. Here is \$14.25 on the wrong side, or a loss of \$4.75 per acre. Had this crop been grown ten days earlier, or had there been rain occasionally through six weeks of drouth, every thing seemed to indicate that a profitable crop would have resulted. One thing I might

have done which was neglected, and that was rolling after sowing. In every thing else I did my best under the circumstances.

I am not yet discouraged. That three acres shall yet produce *paying* crops, if there is any virtue in “trying again.” I might give the minutiae of other fields, some of which have done far better, others far worse. As a general rule the farmer who gets fair wages for his work, and a profit equal to the interest on his capital, is doing as well as the majority of his brethren. I will be satisfied with that return, though I should better like the *farming that pays*, especially if there is no mistake about it, and few bad years.

A YOUNG FARMER.

INDIAN CORN.

EDITORS GENESEE FARMER:—This is one of the important crops grown in the Northern States, and yet many important points in its cultivation are overlooked or neglected.

One of the first points that should be attended to by those who would excel in its cultivation, is the selection and care of seed.

When a farmer has once procured the variety which he thinks suited to the climate where he is located, he can often make great improvements in the shape and size of the ear and grain by a careful selection of the ears for planting; in short, he can soon realize his *beau-ideal* of perfection of that variety by careful selection.

Not only should seed corn be carefully selected, but it should be done early in the season, in order that it may become *perfectly dry* before the severity of winter sets in.

The past season has been remarkable for the many instances in which farmers have been disappointed by the failure of their seed corn to vegetate, and I have taken much pains to converse with them on that subject, and have not found a single instance where they selected their seed corn *early* and *traced it up*, and so exposed it as to have it become dry, that it failed to vegetate; while on the other hand, I have found that in every case where disappointment followed, they either selected their seed corn from the crib, or at late husking from corn that had been cut at the ground, and had not sufficiently dried to preserve its vitality through the severe cold of last winter.

I recently had conversation with a large farmer who complained that his corn was late in consequence of the failure of his first planting; said he planted his whole field *twice*, and a part of it *three times*. I asked him how he selected his seed corn? He said that in consequence of the hurry of work the previous year, he cut up his corn and carried it to his barns and sheds, where it stood until late before he husked it. While husking, he selected the finest ears and traced them up and hung them in his corn-house, where they remained until spring. He said his corn was quite damp when he husked it, and the conclusion was that it did not get sufficiently dry before the extreme cold weather, and hence its vitality was destroyed. Farmers should look to this, and where they have been thus negligent in selecting their seed corn, let it be hung in stove-rooms until perfectly dry before hanging it away where it will be exposed to the severe frosts of winter, and let them remember if seed corn is properly selected, preserved and planted, it *never fails*. G.—New Haven, Nov. 10, 1856.

MANURE FROM DISTILLERIES.

EDITORS GENESEE FARMER:—I write to call your attention, and through you the attention of my brother farmers who live near distilleries, to the great profit they might derive from the manure from the cattle and hogs fed at those places. Don't think, Messrs. Editors, that I am in favor of distilleries; we all know they are the source of nine-tenths of the pauperism and crime in the country, not to speak of our additional taxes caused by them. But so long as we are to be cursed with them, I would have the farmers in their neighborhood take the advantage of improving their farms by the manure which at present only goes to pollute the streams.

What I have previously written on farming has been from my own experience, *but this is not*. Nevertheless, I have seen experiments made with such manure that convinces me that it can be made very profitable; and if any farmer in the neighborhood of Seneca Falls or Waterloo, will provide himself with a large, tight wagon-box, and apply from 12 to 20 two-horse wagon loads of *hog* manure to an acre of land for either grass, corn, or wheat, and if it does not pay him for drawing and spreading the manure the first crop, *I will pay him for the labor*. It must not be put on wet land. If for corn, it should be applied immediately; if on fallow for wheat, it may be applied any time next summer, or immediately before seeding next fall.

The manure from cattle will not do so much good the first season, but will be equally good afterwards, and both will continue to increase the crops greatly for a number of years. It is far better to manure ten acres, and raise as much from that as you now do from twenty or thirty acres. Besides, ten acres *well* manured will be the means of making more manure for another field. Try it and you will find it profitable. JOHN JOHNSTON—near Geneva, N. Y.

SUGGESTED ITEMS—No 3.

EDS. GENESEE FARMER:—The November number of your paper is at hand, and as full of *suggestive* articles as usual. As I read I am reminded of various *items* of personal experience—sundry notions of my own are called out. I send you another “chance medley” of the same.

PUMPKINS.—Do pumpkins generally succeed best in late and dry seasons? I think so, and those raised among my corn this year are very large and heavy—equal, perhaps, to those mentioned by your Ohio correspondent. The seed planted must have been a sad mixture, for I find five or six distinct varieties—one a green, pear-shaped pumpkin, making good *squash*, when cooked like that vegetable. I shall save seed only of the best, and try and grow but one kind in a place next year.

By the way, do not pumpkin *seeds*, by their diuretic properties, go far to neutralize the benefit which cows and hogs should gain from feeding upon the pumpkin? Some experiments tried by a New England farmer, and reported in the journal of that name, go to prove this. Remove the seeds, and the injury is avoided.

FARMS TOO LARGE.—How many “Farmer Nows” there are, who get along just as easily as possible with *pretending* to cultivate their large farms, spreading their work so *thin* that it does not begin to be thorough or even *squint* that way. Such manage-

ment pays no profit. “Don't attempt too much,” should be the motto of every cultivator of the soil, and any rod of ground half-cared for, should be taken as evidence that *too much* had been attempted. We want capital in labor as well as in land—we can scarcely have too great a proportion of the former. “A little farm, well tilled,” give me.

THICK SEEDING.—One of the best arguments in favor of this practice, is that contained in your extract from Mr. HUTTON'S Prize Essay, on p. 340. I have tried both the thick and thin sowing, and as a general result, *thick* sowing produces the largest crops—if the land is sufficiently fertile. If it is poor, it needs rather more seed to cover the surface—but it is the poorest of policy to sow poor land without manure.

SHELTER FOR SHEEP.—I hope neither B. H. G., or “A Young Beginner” will forget to give their sheep *shelter* as well as racks and fodder. There is a great saving in the trouble and expense of wintering sheep, where they have ample protection from the cold and storm—and it is both cruel and costly to expose them in bleak fields, or sheltered only by stacks and fences, Don't do it, brother farmer!

“SHORT ESSAYS” WANTED.—I hope your offer of premiums for short essays on different subjects, will call out many replies. What could be more interesting and valuable than the opinions and practice of farmers in the cultivation of various crops, from different sections of the country? Try for the book, young farmers. If you should lose it, you would gain from the mere exercise and thought required for writing, worth, perhaps, in its influence upon you, ten times the labor you have expended.

Shall I *itemize* for your new volume, Messrs. Editors? B.—Niagara Co., Nov. 7, 1856.

Of course.—[Eds.]

SHOULD HEAVY LAND BE PLOWED IN THE FALL FOR CORN.—I notice that your correspondent S. W. of Waterloo, asks me, through the *Farmer*, if it would not be better to plow down my manure in the fall on my stiff soil, &c.? I answer, no; there is not an acre of stiff soil in Seneca county that will bring a first rate crop of corn, if fall plowed. It must have a sod plowed down immediately before planting to insure a good crop of corn; such at least is my experience. Besides, I want the manure washed into the surface before plowing under. The theory of burying manure deep is long since exploded with me. The garden of your correspondent would be too small to experiment upon, but if he will try both ways of manuring on a field, I believe he will acknowledge my plan to be the best on any kind of soil. Try it farmers, and if you find my counsel bad, let me know it. JOHN JOHNSTON—near Geneva, N. Y.

AN EGG WITHIN AN EGG.—A correspondent of the *Homestead*, published at Hartford, Ct., says:

“We have a hen in our possession, a late feat of which, we commend to the attention of naturalists. Upon breaking one of her eggs the other day, of rather large size, it was found to contain *another perfect egg*, with a hard shell, about the diameter of a penny. The shell of the large and the lesser one were preserved for some time, for the examination of the curious. We challenge Connecticut to beat our ‘biddy.’ We intend to exhibit her at the State Fair, and shall claim for her a special place—special attention—and a special premium.”

ARTICHOKES AS A FIELD CROP.

MESSRS. EDITORS:—Having seen no reply to a question in the September number, asking the opinion of some one who has cultivated the artichoke as a field crop, I came to the conclusion to give you my experience. In the spring of 1850, I obtained one tuber about as large as my thumb, and planted it out on the north side of a board fence, and paid no more attention to it until March, 1851, when I dug up the ground and got a peck measure level full. These I planted in four rows ninety feet long and about three feet apart. In October I dug the product of those, and had sixty-three measured bushels. The crows were turned into the field a few days previous to the time I commenced digging; they had such a liking for them that they commenced rooting them out before I had thought of digging them. This caused me to feed this whole crop (save a few for seed) out to my milch cows. I am of the opinion that my cows did better and gave sweeter milk, and made more butter while fed upon the artichoke, than they did when fed upon either the mangel wurzel or sugar beet; both of which I have tried for several years.

In 1852, I planted about one and one-fourth acres on very poor land. So poor that the adjoining ground of exactly the same quality, did not produce with good cultivation, over ten bushels of corn per acre. These were planted in drills three feet apart, and one foot apart in the drills, and plowed twice. In October I dug six rows of the twenty-seven, and got 262 bushels. It being very wet and muddy, I then quit digging and turned in fourteen head of shoats about the 20th of November; they thrived finely on the artichokes and some scattering acorns until grass came in the spring. I plowed up the ground in April, and sowed it in oats; but did not turn off the hogs until the oats began to show itself through the ground, and at harvest I did not see more than eight or ten stalks of the artichoke on the whole piece.

I am of the opinion that a thousand bushels of them can be produced off an acre of ground that would produce fifty bushels of corn. And I am also of the opinion that I reaped double the profits from those fed to the cows above those fed to the hogs. They do best planted upon moist soil; gravelly or sandy soil does not suit them so well as moist clayey lands. The farms near where my experiments were tried, are considered very poor lands for raising potatoes, and fifty bushels are considered a good crop. The timber is principally white oak, and dogwood underbrush. Some, perhaps, may wish to know why I did not continue to grow the artichoke, when I think so highly of them. To such please say I have quit stock farming, and have no means of experimenting farther with them. J. L. GALLOWAY—*Milford, Ohio, Nov. 15, 1856.*

GOATS.—The milk of the goat is less apt to curdle on the stomach than that of the cow, and is thus better adapted for the weak and consumptive. The flesh of the goat and the kid is much esteemed in many countries, though of a peculiar flavor, arising probably from the aromatic shrubs and heaths on which the goat delights to browse. In Portugal, and other countries, the goat is used as a beast of draught. It is a very general opinion that the peculiar odor of the goat has a wholesome influence.

MANNER OF PLOWING.

I NOTICE in the October number of the *Genesee Farmer*, the editors call upon subscribers to contribute their experience of the past season for the benefit of its readers. They also promise "Our best thanks and the thanks of thousands of the best farmers in the world."

Now, brother farmers, you have no excuse left, and with this promise before you, should throw off all restraint, with your coat and hat, and sit yourselves down with pen, ink and paper, and give the readers of one of the best agricultural and horticultural papers in the world, something practical, something new or old that shall be of interest to the farmer. For as no one knows it all, two heads are better than one, and in this way you will part pay your indebtedness to those who have written for your pleasure and profit.

I have learned, not this year in particular any more than in years gone by, that plowing is done in a very unworkmanlike manner by many farmers at the present time, who think themselves well skilled upon this particular branch of business. To be sure they turn a furrow as smooth and even as one could ask for.—But the manner of plowing is what I object to, which is this: plowing across the ends of lands marked out, shortening the distance, thereby bringing the team upon the plowed ground, tramping it down at each corner from six to eight feet wide, making four short dead furrows in each land, besides the main dead furrow, which is useless. Experience teaches me that there is very little grain grown in dead furrows, or where the soil is tramped hard as a brick. I am confident that any man can go into his field with plow and team, and turn it all over nicely, without tramping so much of the plowed ground, as would make altogether one square yard.

The plan is this: leave about six furrows wide for a single team, and more for a double team, on either side of the field, to turn around on; these we will call headlands. Plow your field in wide or narrow lands, as you please. When this is done, commence your headland farthest from your going out place, plow one furrow the whole length of your headland, and let the near animal and plow follow it back, and so on until it is done. Then cross to the other side in a dead furrow, and serve the other headland in the same manner. J. C. ADAMS—*Seymour, N. Y.*

SUNFLOWER OIL.—You say "the seed of the Sunflower is valuable for making oil, as well as for feeding fowls, &c." We have frequently seen this asserted, but never accompanied by well authenticated facts to prove its truth. Some eight years since, several barrels of Sunflower oil were made in Morgan Co., O., and Dr. BARKER, writing at the time to the *Zanesville Chronicle*, says "those who remember it never wish to see any more." It was tried for painting, but would not dry; for burning, but from "giving out a large quantity of gas similar to that of charcoal, deleterious to life and health, it proved totally unfit for burning in a close apartment. Some was used for oiling machinery; but it was condemned even for that purpose." The sunflower is easily raised on a rich soil, and its seeds contain a large quantity of oil, but its uses are yet to be developed. For fowls, one can raise Indian corn easier, and there are many other uses to which it can be applied. A YOUNG FARMER.

INTERESTING LETTERS FROM THE WEST.

SANFORD HOWARD, of the Boston *Cultivator*, has recently taken a tour through the Western States, and is writing a series of interesting letters, from which we make a few extracts:

DESTRUCTION OF FRUIT TREES.—From Princeton, Bureau County, Ill., "considered one of the best sections, agriculturally, in the State," he writes:

"It is really an unpleasant sight to see the finest apple and pear trees of ten to fifteen years growth from the nursery, cut off just as they were beginning to repay the expense of their cultivation. They are supposed to have been killed by severe cold—the temperature being lower, it is said, than it was ever known before. Doubtless the high winds which prevail on the prairie sections increased the destruction, for the weather was not colder than often occurs in sections where no such injury is experienced; but the cold was more severe than usual, and with the same force of wind was more than trees could bear. In some districts nearly every apple and pear tree which had reached a bearing state was killed, or so much injured that death will be the result. In some instances the trees have leaved out this season, and a cursory observer might suppose they were unhurt, but a close examination will show that many of them have been fatally injured. Some of them are now *blossoming*—an indication that the functions of the tree are radically changed. * * *

The last winter was less injurious to young, or nursery trees, than to standards which had come into bearing. I notice, however, that some varieties of apples have suffered worse than others, and this difference is obvious even in the nursery. It is more striking in the orchard, where trees of the Rhode Island Greening, Roxbury Russet, and Baldwin, are scarcely to be found alive, while those of the Yellow Belleflower, Willow Twig, Rawle's Jeanette, (or Juneating), and generally those whose branches incline to a pendent habit, are less injured.

OSAGE ORANGE AND BUCKTHORN HEDGES.—Speaking of a visit to the nursery of Mr. ARTHUR BRYANT, of Princeton, he says;

Mr. B. is also trying hedges, for which he has the Osage Orange and the Buckthorn. The former grows fastest, but has a more straggling habit; the latter is more hardy, and more readily assumes the required form, for which reasons Mr. B. gives it the preference. I have seen many hedges of the Osage Orange, or rather what were intended to be such, in Illinois and Iowa, but few of them are of much use as a fence. I was in hopes to have seen some which had been rightly cared for, and were old enough to have their value tested, as there are probably some such; but most of those which I have met with, except Mr. BRYANT's, which are yet young, have been neglected, and can make little pretension to a proper hedge. Many people seem to suppose that when they have planted a hedge, they have finished it.

IMPORTANCE OF SHELTER ON THE PRAIRIES.—Tree-planting for protection is a most important business in the prairie country, and should engage the attention of the people more than it seems to do. It is not likely that the prairies, where every day there is a breeze, and every breeze (in cold weather) is a gale, will be good for fruit trees. Trees thus exposed look like those on the bleak shores of the sea. They need protection against these sweeping blasts. In a few instances attempts have been made to secure this protection by the growth of trees. Locust is the most common for this purpose. It grows rapidly for a time, but slowly af-

ter it has attained the height of twelve or fifteen feet. In some instances the white and black walnut have been introduced into these artificial "groves," as they are called, and they have grown pretty well. But to form a good barrier against wind, evergreens are required. A double row of Norway spruces, or the common hemlock, in full perfection, would be better than ten times the number of deciduous trees. It may be harder to raise evergreens, but extensive trials should be made to ascertain if there are not some kinds which will succeed.

BREAKING UP THE PRAIRIE.—The first object with a farmer on taking up a prairie farm, is to plough the ground. The natural vegetation does not make a close sward, like some of the cultivated grasses, but the roots are very tough, and considerable force is required to sever them. A plough of peculiar construction is used. It is sometimes made wholly of steel, but a steel shear is indispensable, as no other metal will hold an edge keen enough to do the work properly. The shape of the plow is adapted to turning a wide, shallow furrow, it having been ascertained that the sods rot much quicker when the furrows are thin. The beam of the plow is supported on two wheels, which give the implement a steadiness of operation. * * *

Oxen are generally used for breaking the sod, from three to five yoke being put to a plough, and from an acre and a half to two acres and a half are plowed in a day. The plowing is done whenever it is convenient to do it. If it is done in the summer, the sod gets rotted sufficiently by spring to cross-plough it and sow to wheat, or it is in good condition for corn.

If it is plowed in autumn, or early in spring, it will answer for "sod corn." Holes are opened in the furrows with an axe, and the seed dropped in. From that time to harvest the field is not touched. The sod is so tough that it is of no use to try to use any implement of cultivation on it. Such corn sometimes yields thirty bushels to the acre, and an average annual yield is fifteen to twenty bushels to the acre.

The sod becomes pretty thoroughly rotted during the first season, and the ground is easily plowed afterwards. It becomes, in fact, too loose for either wheat or grass. * * * An average yield of corn, after the first season, is, perhaps, forty bushels to the acre, though sixty, seventy-five, and sometimes a hundred bushels to the acre are obtained.

CROPS ON THE PRAIRIES.—* * * Comparing the yield of crops, and the facility and certainty of their production, it is in Indian corn that the West strikingly excels.

The prairie sections are not so good as some others for wheat, grass, or fruits. The wheat mostly cultivated in Illinois and Iowa, is spring wheat. Winter wheat is so liable to be killed by the winter that its cultivation is seldom attempted. I have seen but very few fields that have been sown this fall. It is not generally killed by the heaving of the ground, but the soil has so little adhesiveness that the high winds which blow here ever and anon, sweep the roots of the plants bare, and they die from exposure. Spring wheat is therefore taken as a last resort. It yields an average, perhaps, of fifteen bushels to the acre, though twenty-five to thirty bushels are sometimes obtained. It brings from fifteen to twenty cents a bushel less than white winter wheat. The kinds preferred are the Rio Grande and the Canada Club. Barley has not been extensively cultivated, but the multiplication of breweries creates a demand for it, and it may be produced at a handsome profit. I have heard of several instances where it has yielded from thirty-five to forty bushels per acre. Oats do not do as well as in some other sections. 2

JERUSALEM ARTICHOKE.

In reply to a request by the Editors of the *Genesee Farmer*, for the experience of its readers in the cultivation of the Jerusalem Artichoke, we would say that we tried it twelve years ago, by inoculation with the mania which had then been imported from Middle Tennessee. We grew it on a light and rich clay soil, upon a hillside—not “side-hill”—well drained. We found it worthless compared to Indian corn for fodder, and inferior as a root crop to turnips. When our hogs harvested them, they injured the land by rooting—a process, by the way, which does sometimes benefit old turf or sward bound lands, if not pushed to an extreme—and when we dug them by hand or with a plow, we found that the labor did not pay. We fed them awhile at the rate of half a bushel per day, with other suitable food, to two milch cows, and both had in consequence a laxity of the bowels almost amounting to diarrhoea, and fell back in their milk.

We found that except on the richest portion of the land, at the foot of the hill, they did not assert their alleged supremacy over weeds, briars, and summer progress, which nearly divided the land with them; and the richer land could have been more profitably cultivated in something else.

Some of our neighbors who devoted a much larger area to the crop, thought they saved corn by turning their hogs on the lots; but we never could see that the order of the hogs was very fine: and in time they all gave up the cultivation. Possibly they may not have suited our habits; and we must consult the habits of the laborer almost as much as suitableness of climate and adaptability of soil, in whatever crop we grow, or wish to introduce.

It may be that in rich, sandy land, which hogs cannot hurt by rooting, or in places where labor is very cheap, this crop may succeed. And Boussingault, who is stated in the *Genesee Farmer's* article to have given it a high name, may have met one or both of these conditions. Certainly we would not, in giving our experience, be understood as contradicting his, for he is the ablest, most practicable, and most reliable of all the great writers on Agricultural Chemistry that we know, more honest than Leibig, and far more so than Johnston. But the above facts comprise our experience in and observation of the culture of the Jerusalem Artichoke.—*The Southern Planter*.

THE VALUE OF AGRICULTURAL EXHIBITIONS TO EXHIBITORS AND THE PUBLIC.—A writer in the *Mark Lane Express*, referring to the late meeting of the Royal Agricultural Society at Chelmsford, remarks: “I confess that upon going through the vast display of machinery and implements, my mind misgave me, with respect to the profit and loss account which the exhibitors would ultimately have to bring a balance. Upon inquiring, however, of the parties themselves, I found they were perfectly satisfied with the results hitherto. On questioning a machinist, who exhibited (among other things) a patent mangle, (a very neat and novel machine,) at Carlisle, last year, he told me he had sold since that meeting a thousand of them! and if he had not exhibited them he probably would not have sold a twentieth part of that number.”

We recollect a parallel case, in 1853—a churn, of a new and simple construction was exhibited at our State Fair, in September, and a prize awarded. We subsequently met the exhibitor in the Crystal Palace, New York, in November, who informed us that he had sold, since the Fair, between six and eight hundred! Without the opportunity thus afforded him of exhibiting his churn to thousands, he could not have accomplished a like sale in years.

From our observation, from the first Exhibition fifteen years since to the present time, those implement makers and stock breeders who have most stealthily exhibited, have been by far the most extensively patronized. Not only is the exhibitor benefited, but the public at large—here all have an opportunity which can be had no where else, of examining and comparing implements, cattle, sheep, swine and horses; and in a single day a man can acquire a more correct knowledge as to those best adapted to his purposes, than could be obtained in any other manner, even by devoting months of his time.—*Journal N. Y. S. Ag. Society*.

BE A THOROUGH FARMER.

When JOHN QUINCY ADAMS—then a very young man—found himself wasting his time on a thousand different things, tasting all and enjoying none, he was led to ask himself what his life would amount to if it should be spent in that way. The answer agonized and alarmed him. He saw that in his case, at least, his powers must be concentrated on one thing, or he would succeed in nothing. He was then studying law, and he resolved to master that *one science*. He acted at once in accordance with his resolution. He mastered the law. This was the turning point in his life. It was the condition of his great attainments in after life. With a taste almost universal, he created for himself a “master passion,” and it became the “secret of his success.”

Now, we would recommend the example of the great statesman to our industrious farmers, especially to our young men, who expect to spend their lives on the farm, and who have a praiseworthy aspiration for a high position in the profession. We would say to them, “master your own vocation first of all.” We do not say that you should leave off work during the summer for this. But we would say, let your reading be mainly Agricultural and Horticultural reading. Let your talk be with men who can instruct you most in your own business. If any person in your vicinity has excelled in any one thing, learn from him the cause of his success, and apply the knowledge in your own work. Direct your general labor, if possible, so as to make it serve the purpose of experiments on important points. If a question has been started for investigation in the Ohio (or Genesee) Farmer, see if you cannot settle it, or at least throw some light on it, without going greatly out of your way. But these are only some of the ways in which your interest, once concentrated in your business, will show itself. Be a first rate farmer.

Work hard we say, but let your work be directed by clear-headed intelligence. Let politics alone, when ever politics interfere with your improvement in your profession. Endeavor to be an earnest and intelligent Christian, but let it be part of your religion to have a model farm, and to be a model farmer. Endeavor to be a man of intelligence, but begin with that intelligence which is most for your interest as a farmer. Try to be a man of taste, but let the first culture of that taste be manifest in all those things which go to make up excellence and beauty on the farm. Strive to be a patriot, but let your patriotism be shown first and most emphatically in adding one to the number of those who most thoroughly understand and most completely mind their own business. When farmers shall become ambitious to be known mainly as farmers, and when their desire to comprehend the science of farming shall bear a proper ratio to its importance and dignity, they will be the men of broadest minds and most solid sense, in the land; for such are the traits which farming, thoroughly understood and pursued, will most fully mature.—*Ohio Farmer*.



MALE CASHMERE GOAT.

The property of RICHARD PETERS, of Atlanta, Georgia, imported during the year 1849 from Turkey in Asia, by J. B. DAVIS, M. D., of South Carolina. Live weight 155 lbs.; weight of yearly fleece, 7 lbs.

CASHMERE GOATS

IN 1849, Dr. J. B. DAVIS, of Columbia, S. C., imported some Cashmere goats into this country. He had been for some time a resident in Asia and the East, and became convinced that these animals would prove a great acquisition in many parts of the United States, especially in those districts where the soil is not adapted for ordinary agriculture or grazing, but where, nevertheless, there is an abundant supply of food for browsing animals, like the goat. He brought over with him seven females and two males. Immediately on his arrival, he procured a number of the diminutive native female goats, and crossed them upon a Cashmere buck. Their progeny had hair very fine, but little longer than that of the does. He then crossed the females of this progeny with the other Cashmere buck, and "it was difficult to distinguish these from the pure breed; and the subsequent cross cannot be detected."

In 1853, the entire flock of pure bred females, (with the exception of three previously sold, one to Mr. DAVENPORT, of Va., one to Col. WADE HAMPTON, of South Carolina, and one to Mr. OSBORNE, of Waterville, N. Y.) passed into the hands of RICHARD PETERS, of Atlanta, Ga. The flock now consists of twenty-five head, excluding the three pure bred females above enumerated, and several bucks owned by gentlemen in Tennessee, Georgia and South Carolina, who are breeding grades by crossing on the common goat.

At the late Fair of the United States Agricultural Society held at Philadelphia, Col. PETERS exhibited

a number of the pure bred and grade animals, which attracted much attention. We have much pleasure in presenting our readers an excellent engraving of one of these justly celebrated animals.

Col. PETERS states that the fleeces of the matured bucks weigh from six to seven pounds; ewes yield from three to four pounds. The flesh of the crosses is superior to most mutton, tender and delicious, making them a desirable acquisition to our food producing animals. The ease with which they are kept, living as they do on weeds, briars, browse, and other coarse herbage, fits them for many portions of our country where sheep could not be sustained to advantage; whilst their ability to defend themselves from the attacks of dogs, evidence a value peculiar to this race of animals. They are free from all diseases to which sheep are liable, hardy and prolific; and experience has proven that they readily adapt themselves to all portions of the United States.

It is from the hair of these goats that the beautiful Cashmere shawls, worth from \$700 to \$1500, are made. We attach considerable importance to the introduction of these animals into this country, and shall endeavor to furnish our readers with any new facts brought to light by the experiments; which we hope and believe will prove successful.

It is cruel to starve animals, or to deny them protection against the fierce blasts of our northern winters. It is, too, unprofitable, for warmth, up to a certain degree is equivalent to food, and cattle starved in winter will not recover from it till the best part of the summer is past.



ENGLISH NATIONAL SCHOOL HOUSE.

THE above engraving shows one of the National English School Houses erected at Tamon, at a cost of about \$5,000.

It is interesting chiefly as a study of the quiet domestic character which the English give to this species of building. "One can easily believe," says the late A. J. DOWNING, "that something of home affections and love for good order and neatness, would naturally grow up in the mind of every pupil educated in such a school."

The first thing that strikes an American eye is, the "very humble" appearance of the building, arising from the lowness of the walls. But this is, internally, amply made up by the great height of the roof—the whole space being open, and the under side of the timbers and woodwork of the roof being exposed to view. This gives a lofty and spacious appearance to the interior, and an abundant supply of fresh air—connected, as the space is, with every means of ventilation.

This style of building will hardly be followed exactly in this country, but there are many details, and some hints in composition about this domestic style, that are well worthy of study by those designing, or about erecting buildings of this class.

GOOD READING FOR YOUNG PEOPLE.—I perceive by a late number of the *Genesee Farmer*, that you are getting up another *Rural Annual*. I wish to be put on the book for one. I procured the edition for 1856, and am delighted with it, for several reasons, among which I may say it is a very pretty ornamented book to grace the center-table, or any other situation. But above all, the young people are cheated into reading something instructive, instead of poring over those cheap publications with yellow covers, with which our country is flooded. I said cheated, because being a *pretty* book outside, it is taken up and opened, and when once opened it is sure to attract the attention by the cuts it contains; then arises a desire to know their history and uses, which is fully satisfied. D.—*Gates*.

A CHEAP FENCE.—One way to "save the fragments" of a nearly used-up rail fence, is to take the crooked, broken, and partially rotten rails and cut them into half-lengths, and then make every other length of the short rails thus:—



A rider, with stakes crossing the center of every long length, would add materially to its strength and permanence. Such a fence will last for several years, and answer in the room of a better one—a consideration worth while in these days of scarcity in fencing material. H.—*Alabama, N. Y.*

A CORN HUSKER.—A very convenient thing to assist in husking corn is a peg of hard wood about four inches long, sharp at one end, and fastened to the



hand by a leather strap passing over the two middle fingers. The point comes up between the thumb and fingers, just right to use instead of the thumb-nail in tearing off the husk, and out of the way in handling and breaking off the ear. It is of especial use if the corn has been cut a little green and the husks are thick and tight. B.—*Nov., 1856.*

SHOEING OXEN.—One of your correspondents says, "for shoeing large oxen, the shoe should be one inch smaller than the foot." That is decidedly wrong. I have shod oxen for the last twenty years, and I want the shoe to come out full both at the heel and the toe, with a broad pan, and there is no danger of laming the ox. It is just as easy to shoe a large ox as a horse, if you understand your business. S.—*Erie, Pennsylvania.*

RATS AND MICE are very abundant and voracious all over Western New York, and, perhaps, elsewhere, the present autumn. What will become of us, if they go on increasing another winter; and what can be done for their extermination? K. N.



Horticultural Department.

PROCEEDINGS OF AM. POMOLOGICAL SOCIETY.

(Continued from page 317.)

The following varieties of apples were added to the list that promise well: Carolina June, Winter Sweet Paradise, Smith's Cider, Faldwalder, and Broadwell.

DISCUSSION ON PEACHES.—Crawford's Early and Oldmixon Clingstone were added to the list for general cultivation; and the following varieties were recommended as promising well: Susquehannah, Hill's Chili, Gorgas, Madelaine de Courson, and Hatine de Ferriers.

Bergen's Yellow.—Mr. HOOKER, of Rochester, had found it very unproductive and unprofitable. Mr. HANFORD stated that it was very productive in Indiana.

Early York.—Mr. WESTBROOK, of North Carolina, stated that it was very liable to blight at the South.

Morris White.—Mr. HANFORD, of Indiana, had found this tender, but being interrogated as to the temperature it had been subjected to, named 31 degrees below zero. Mr. PINNEY, of Clarkson, N. Y., considered it a poor bearer. Mr. HODGE, of Buffalo, N. Y., said that with him it was a very fair bearer, and would always command the highest price for preserving. Mr. SYLVESTER, of Lyons, N. Y., considered it as hardy as most sorts, and spoke of the great demand for it that existed.

Early Tillotson.—Mr. HANFORD had found it hardy and not subject to mildew, and considered it the best early peach. Mr. WESTBROOK esteemed it as one of the very best, and had known it sold for \$15 per bushel in New York. Mr. HODGE had found it a bad grower and an unproductive tree. It mildewed badly with him, and was rarely very good. Mr. SYLVESTER had had similar experience. It was a poor bearer. He had had but three bushels from 100 trees, and although very good, it was if anything later than Early York, and not suited to orchard culture. Mr. PRINCE, of New Jersey, considered it "stamped by nature with disease." Its leaves had no glands, and it should be rejected. Mr. WESTBROOK had never found it to mildew, although the Early York did. He did not consider the glands a necessary appendage at all.

Large White Cling.—Mr. PRINCE observed that this variety had been in cultivation forty years, and should be well known. It was very handsome and always excellent. Mr. C. M. HOVEY, of Boston, had found it very productive. Mr. DOWNING, of New York, considered it one of the best of the clingstones. Mr. BARRY, of Rochester, said that it was very fine

and worthy of general cultivation. Mr. WARING remarked that it bore well, and was of fine quality.

DISCUSSION ON CHERRIES.—The following varieties of cherries were recommended for general cultivation: Belle d'Orleans, Coe's Transparent, Early Purple Guigne, Governor Wood, and Reine Hortense.

Downton was removed from the list for general cultivation. **Rockport Bigarreau** was recommended as promising well.

Monstreuze de Mezel was decided to be synonymous with Bigarreau Gabaulis and Waterloo.

Napoleon Bigarreau.—Dr. BRINCKLE, of Philadelphia, had found this a most abundant bearer. The President had never had a quart of fruit, and there was very rarely any fruit in Massachusetts. Messrs. TOWNSEND and SYLVESTER, of New York, had had no fruit. Mr. BERCKMANS, of New Jersey, said that it was very productive and rich at Wilmington, and good at the South. Dr. BRINCKLE considered it one of the best sorts in Pennsylvania and Delaware. Mr. BURTIS, of Rochester, had seen it fine at the West. His trees bore well. Mr. GRANT had tested it for four years. It was most productive, and neither rotted nor cracked. Mr. BARRY considered it very fine. It never rotted except in case of rainy weather at the time of ripening. It was the most valuable for market of all that he had cultivated. Mr. HANFORD had found it hardy and a profuse bearer. Mr. HODGE had cultivated it 20 years. The fruit was very large but liable to crack and sometimes to rot. The tree was tender and not a very good bearer. Mr. HOOKER considered the Holland Bigarreau synonymous. Mr. BARRY had generally received it for Holland Bigarreau. He did not believe that the latter was cultivated in this country. Mr. PRINCE stated the Holland Bigarreau of France to be distinct. Mr. DOWNING considered it doubtful. He had for two years been of opinion that they were synonymous. Mr. BERCKMANS concurred with Mr. PRINCE, and said that the Bigarreau d'Esperen was identical. Mr. BARRY said that the Bigarreau d'Esperen and Bigarreau Wellington had both proved to be identical with the Napoleon Bigarreau. Recommended for special cultivation.

Mr. MILLER remarked upon a fine black cherry in his vicinity, of which he did not know the name. Mr. BARRY was of opinion that it was the Tradescant's Black Heart. Mr. HOOKER thought it distinct. Mr. REID considered the Tradescant's Black Heart and Bigarreau of Savoy synonymous. Mr. PRINCE said that the Tradescant's Black Heart, Bigarreau of Savoy and Black Bigarreau were all distinct sorts. He considered Mr. RIVERS no authority upon the subject, and thought that Mr. REID had not the correct variety.

American Amber.—Mr. BERCKMANS and others considered it a poor fruit. Mr. PRINCE stated it to be one of the best sorts and greatest bearers.—Messrs. BARRY and ELLWANGER had both found it one of the most productive.

Transparent Guigne.—Mr. MILLER considered it one of the best sorts. Mr. TOWNSEND agreed with him. Mr. PRINCE said that it was small, but an abundant bearer. Mr. HANFORD had found it hardy and productive. Mr. SYLVESTER and C. M. HOVEY thought it small and not very good. Mr. HODGE had found it very productive, but small, and there were many better sorts.

Belle de Choisy.—Mr. REID had a high opinion of

this variety. Mr. HOOKER had a fine crop this year. Mr. BARRY and others said that it was a poor bearer.

PLUMS FOR GENERAL CULTIVATION.—The following varieties were recommended for general cultivation: *Prince's Yellow Gage and Lombard*. The following varieties as "promising well." White Damson, Felleberg, General Hand, Bradshaw, Duane's Purple, German Prune, and Pond's Seedling.

Frost Gage was removed from the list for general cultivation.

River's Favorite was spoken of by Messrs. BARRY, SAUL and BERKMANS, as being very good.

Pond's Seedling.—Mr. Barry had found this to bear large fruit, and heavy crops. He thought it promised to be one of the most valuable sorts in cultivation.

McLaughlin.—The President stated this to be as hardy as an oak, and even in Maine, where it had sustained extreme cold, the fruit was nearly, if not quite equal to the Green Gage. Mr. BARRY considered it of the highest excellence. He had found it to bear fine crops, and was a large, beautiful fruit. Mr. REID stated it to be a fine grower.

DISCUSSION ON RASPBERRIES.—*French.*—The President observed that this was very late and valuable. Recommended for general cultivation.

Cushing.—Mr. GRANT had found it very productive, large, late and excellent. Dr. BRINCKLE remarked that it generally, at Philadelphia, bore a second crop, and unless the weather was unfavorable, the second crop was the best.

Wilder.—The President's experience had been unfavorable. Dr. BRINCKLE stated that the first year of bearing, the fruit was so handsome that \$200 was offered for the plant, which he refused.

Cope.—Mr. BERKMANS recommended this variety. Recommended as promising well.

Thunderer.—Mr. GRANT had found this to be very large, productive and vigorous, and of high flavor. Mr. PRINCE had seen no European varieties which were hardy except the Franconia. Recommended as promising well.

American Red, or Red Prolific.—Mr. PRINCE had a high opinion of this sort. Recommended as promising well.

Ohio Everbearing.—Mr. GRANT remarked that it was a black, perpetually-bearing fruit. Mr. PRINCE had found Longworth's Prolific synonymous. It was a perpetual black cap. Mr. REID said that with him it had proved poor and small. Mr. SYLVESTER thought it very good. Mr. DOWNING observed that it was larger than the Black Cap. Recommended as promising well.

Catawissa.—Dr. BRINCKLE said that this was the most abundant bearer he had ever seen, and would recommend it for trial. Mr. PRINCE concurred, and said that it was a variety of the American Red. The President was much pleased with its high, mild flavor. Mr. PIERCE stated that it had originated at Catawissa, where it was accidentally discovered in mowing, and removed to a garden. He had, after the second trial, succeeded in raising it, and found it an astonishing bearer, and a great acquisition. It ripened on the 20th August. Recommended as promising well.

APRICOTS.—*Lafayette.*—Mr. PRINCE stated this to be a seedling originating in New York, twice the size of any which had been received from Europe, very vigorous and excellent.

BLACKBERRIES. *Improved High Bush.*—Mr. PRINCE spoke of it as a very good mild variety, not so large as the Imperial or Lawton. The President observed that it was a native of New England, and generally very large. He regarded it as an acquisition. Mr. LAWTON had been astonished to find it such a fine fruit. It was very large, fine and superior. Mr. HOOKER had found it no better than the common wild varieties. It was not always very large, and not very hardy last winter. He considered it inferior to the Lawton, and thought that it should not be very highly recommended. The President had never heard of its being injured in the least by the cold in New England. It was extremely popular, but needed high cultivation. Dr. BRINCKLE had found it very large. He wished to have it called the *Boston*, and that it and the *Lawton* should be recommended for general cultivation. Mr. ERNST would prefer to call it *Dorchester*, as that was the residence of Col. Wilder, by whom it had been introduced. The President suggested that it be named the *New England*. He stated that it had been exhibited at the Massachusetts Horticultural Society twenty-five years since by a neighbor of his, from whom he obtained twenty-five plants, which he divided with Capt. LOVETT, who cultivated it highly, and sold it under the name of Improved High Bush. Mr. ERNST thought New England a too general name, and would prefer *Dorchester*. Mr. BARRY was of opinion that it was too widely known as High Bush to change the name at this time. Dr. BRINCKLE said that all blackberries were high bush ones. Mr. GRANT had known it called *Dorchester* in some catalogues. He remarked that all blackberries could not be improved by cultivation. Recommended for general cultivation as *Dorchester*.

Lawton.—Mr. CARPENTER, of N. Y., stated that this sort was known by many for twenty years, as the New Rochelle. It had been found growing by a fence, and introduced by Mr. SECOR, who had made great efforts to disseminate it. He wished that it might retain the name of New Rochelle. Mr. LAWTON regretted that the subject had been introduced, but would state the facts in the case. The fruit did not exist in New Rochelle, nor never did. It was not discovered there or in the vicinity. The variety which had been sold as New Rochelle was worthless. He had introduced the fruit in question into his garden, gave many of the plants to his friends, and exhibited the fruit before the Farmers' Club of New York, by whom it was named Lawton. Mr. SYLVESTER was of opinion that Mr. LAWTON was correct, and wished the name to be retained. He thought that Mr. L. deserved the honor. The subject was then laid upon the table.

STRAWBERRIES.—The following sorts were recommended as promising well: McAvoy's Superior, Hooker, Scarlet Magistrate, Trollope's Victoria, Genesee, Le Baron, and Longworth's Prolific.

A PRODUCTIVE APPLE TREE.—"There is hanging in our office," says the *New Haven Register*, "the forked bough of an apple-tree, each part of which measures only twenty-two inches in length, on which there are one hundred and forty-seven apples, thicker upon the wood than human ingenuity could possibly affix. They are of an average diameter of two and a half inches, and the weight of the branch is thirteen pounds."

NATIVE GRAPES.

At the present time, native or hardy grapes are creating quite a *furor* in the pomological circles in this country, and surely no fruit deserves more attention than the native grapes of America. We have now acquired that great desideratum, a white native grape, hardy and productive, and according to my way of thinking, the way is now opened to obtain an endless number of superior new varieties.

The *Rebecca* is a new white, native grape, and originated in the garden of a Mr. PEAK, of Hudson, N. Y. The vine is perfectly hardy, and a moderately strong grower. The bunches are medium in size, not shouldered, and very compact. Berries large, roundish, of a beautiful golden yellow color. Skin, thin, without pulp, seeds very small. Flavor, for a native, "best," very sweet, and having less of the peculiar aroma than any other. This grape is a decided acquisition, both on account of its color and its early ripening, being nearly two weeks earlier than the *Isabella*. It may possibly be a hybrid, but the wooly appearance of the leaves and the flavor of the fruit seem to prove it a full blooded native. It was recommended by the American Pomological Society as promising well.

The *Canadian Chief* is a white grape with immensely large, shouldered bunches, but it is in all probability a seedling of, if not identical with, the old Sweetwater, and cannot be called a native. The flavor is about as good as that of the Sweetwater ripened on an open trellis.

§ *Diana*.—This is a seedling from the Catawba, raised by Mrs. DIANA CREHORE, near Boston, Mass., and is equal in size to that variety. It is decidedly one of the best native variety in cultivation, ripening where the *Isabella* would fail altogether, being eight or ten days earlier. The vine is a moderately stout grower, bunches medium to large, and rather compact, berries round, of a paler color than the Catawba; flesh juicy and very sweet, with little pulp; rich and saccharine, and of quality best.

Delaware.—By many this is thought to be a foreign variety, and I rather incline to that opinion. It was thought to be such by Mr. LONGWORTH, but it was stated at the last meeting of the American Society that he had changed his opinion. It is said to be very hardy and early, and is certainly a very delicious grape, and must become very generally cultivated. It resembles the German wine grape called the Traminer.

Concord.—This variety is not so good as the *Isabella*, but in consequence of being a few days earlier it may prove valuable where this variety does not ripen.

The Sage, Hartford Prolific, Northern Muscatine, and Charter Oak, are worthless foxy varieties.

The *Isabella, Catawba and Clinton* are all well-known standard varieties, but in this climate the Catawba will not ripen perfectly oftener than once in six years, unless in a very favorable situation.

There are many other varieties, but none of them suitable for cultivation at the North, either the vines being too tender or the period of the ripening of the fruit too late for this latitude.

The *Isabella, Diana and Rebecca* are the most suitable for this latitude, and further north, *Clinton and Concord* would be preferable. W. T. GOLD-SMITH.—Rochester, N. Y.

THE GREAT PALM HOUSE AT KEW.

WE give, as a frontispiece to this volume, a beautiful engraving of the magnificent Palm House in the National Garden at Kew, England. In it the palms and other trees of the equatorial regions, growing in the ground and in huge tubs, reach the altitude and wear the same aspect as in their native clime.

"There is no doubt," says the lamented DOWNING, "that this is the most beautiful plant house in the world." Though not so large as the great conservatory at Chatsworth, and but small compared with the Crystal Palace, it has an airiness and elegance that neither of these latter buildings can boast. This is owing to the exterior of the Kew Palm House, or at least the roof, appearing an unbroken sheet of curved glass—while the others, being constructed on what is called the "ridge and furrow" system, present a series of *ploughed* or angular roof lines.

It is 362 feet long by 100 feet wide, (in the center,) and 66 feet high. The main ribs of the roof are wrought iron, as well as all the ties. The columns are cast iron, and being hollow, conduct the rain water from the gutters on the roof to rain water tanks formed underneath and around the whole interior of the building. A light gallery runs round the whole, from which, not only the best view of the trees and plants is obtained, but the tops of the trees are watered, the supply being obtained from a reservoir in an ornamental tower at some distance.

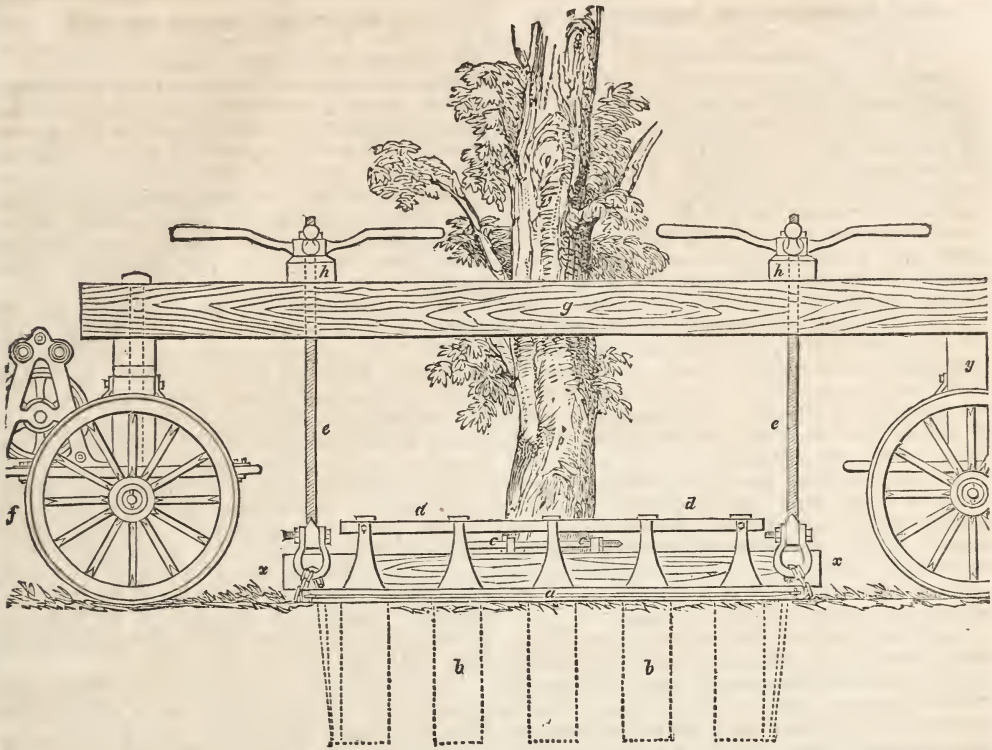
The roof is wholly glazed with sheet glass, *slightly tinged with green*, the tint being given in making the glass, by oxide of copper.

To heat the house, there are 28,090 superficial feet of hot water pipes, connected with several boilers, laid under the perforated iron flooring, which forms the paths, &c.

No chimneys being visible, the visitor who examines the building is at a loss to know what becomes of the smoke. He is, in answer, shown in the distance, (550 feet off,) a high Italian tower, to which the flues lead under ground. There is a subterranean passage the whole way from the tower to the heating apparatus, and through this passage runs a small railway with iron wagons to convey the coal and take away the ashes. In ventilation and other details, the building is equally perfect.

The entire cost of this conservatory was about \$160,000. The rich collection of plants which it contains, and the admirable way in which they grow, are worthy of the great national garden in which it stands, and which the British nation keeps up at a large annual cost, for the instruction and delight of any and every person, without any fee whatever, who wishes to enter.

TO PREVENT RABBITS FROM BARKING TREES.—Put two pounds of lime into about three gallons of water, and stir it till dissolved. Then add several handfuls of soot, and apply the mixture to the trunks of the trees a little higher than the rabbits can reach. The mixture should be applied before winter sets in, but if it has been neglected till frosty weather, let it be done during a bright day, while the sun shines. It will dry in a few hours, and is said not only to prevent injury from rabbits, but to keep the bark in a state of preservation and health, and prevent the growth of moss, &c. This method has been used for several years in France with complete success.



M'GLASHAN'S APPARATUS FOR TRANSPLANTING LARGE TREES.

This celebrated apparatus proves eminently successful for removing large trees. An engraving of it may suggest ideas which may enable some of our ingenious mechanics to construct a cheaper and simpler machine. The plant to be removed is surrounded by a stout rectangular iron frame (*a*), which is placed upon the ground. Then let the spades (*b b*) be forced nearly perpendicularly into the soil within the iron frame. Next suppose an extension rod (*c c*) to be so applied to the handles of the opposite spades, as to drive them outwards by the leverage at *c* acting upon the fulcrum *a*; the result will be that the ball of earth enclosed between their blades will be converted from a cube into a wedge with the point downwards, by which means the earth becomes secured between the spade blades. After this a collar is fixed to the stem of the plant, and to the two opposite sides of the iron frame, *a*, grasping the plant firmly and preventing its slipping. The spades *b b*, have blades three feet long and iron handles; and within the handles passes a bar of iron (*d d*), to receive the lateral pressure of the extension rods.—Two beams of timber (*x x*) lie across the frame, and hold fast the collar (*c c*), by which the trunk is grasped. Matters being thus adjusted, the mass is ready for the lift, which is managed in the following manner: A pair of strong timber trucks (*f f*), are backed up to the two ends of the frame, each having above its axle a powerful wooden upright (*y*). Upon this is laid a frame or platform of timber (*g*), through which pass vertical screws (*h h*), attached to a powerful iron coupling and worked in collars secured to the platform. The screws are finally connected with

the lower apparatus, which secures the roots of the tree by chains passed through the couplings. This done, the machine is ready for work. The lift is taken by means of the screws (*h h*), which are worked by men standing upon the platform. When the mass is raised out of the ground, the trucks are chained together, and may be moved in any direction required. On one of the trucks a crab is shown; this is for the purpose of moving the machinery by means of a block and tackle secured to some tree or post, when circumstances are favorable to its employment.

TO PREVENT MICE AND RABBITS FROM DESTROYING YOUNG FRUIT TREES.—A year ago I set out a young orchard on the highest and driest land in Erie Co.—I have heard it said that high ground would be the least affected by frost, and I will try the experiment.

The rabbits commenced girdling my trees. I was advised to try different experiments, but my own was to go to the saw-mill and get refuse siding and thin boards that did not cost anything, and saw them two feet long. Take thin pieces, one, two or three inches wide, the other two six or seven inches wide; set them on the ground in the form of a triangle, and put one shingle nail in top and bottom. They have stood a year and are good now. Not a rabbit or mouse has touched the trees since, while my neighbors had some destroyed by mice. S.—*Erie, Pa.*

SUBTERRANEAN IRRIGATION is destined to be of great value to the fruit and vegetable grower, in our dry, hot climate. The water can be conveyed by common draining pipes directly to the roots.

WILD FLOWERS—THEIR CULTIVATION, &c.

(Continued from page 368.)

ONE of the favorite amusements of youth is to plait crowns with the wild flowers of the woods and fields. The timid lover expresses his passion by the homage of a bouquet; and the young belle naively abandons to her favorite, the flowers which decked her brow or withered upon her bosom. Even old age itself smiles on flowers. Crowns and garlands may be traced to the remotest antiquity. Warriors' heads were decked with roses and their path strewn with flowers.—Among the Greeks and Romans, the crown was, so to speak, the ordinary head-dress of the great philosophers. SOCRATES had always his head adorned with flowers. At eighty years, ANACREON intermingled roses with his white hairs. CÆSAR, who was bald at thirty years, was indebted for a long time to the crown of flowers to conceal this defect from the beauties of Rome, and no one could present himself in public without his crown of flowers.

At the present day there is an evident inclination to return to the better customs of ancient Greece and Rome. Let us hope that in a short time the crown and the bouquet will be vigorously enforced in every re-union that has pleasure for its object. Why should not our ladies abandon the ungraceful cap for the elegant and odoriferous crown of flowers?

It was our intention, when we commenced this article, to redeem our promise, in a former number, of noticing such wild flowers as are susceptible of cultivation; but when fairly astride our hobby, we never know when or where to stop. We will now, however, endeavor to fulfil that promise by giving the following, which are not only susceptible of cultivation, but highly meritorious:

TRILLIUM.—From *trilix*, the parts of the flowers in threes. There are ten species of this plant, natives of this country from Carolina to Canada, all hardy, tuberous-rooted perennials. The Trilliums are a curious and beautiful tribe of plants, and very ornamental, flowering in April and May. The flowers are universally of three petals, and the leaves grow in threes; called by botanists *trifoliate*; and probably from this circumstance the name trillium is derived. They are all natives of shady woods and swamps.—Some one or other of the kinds may be found in most of our low, woody swamps, or on the borders of streams. We have found them on the grounds bordering the Norman's Kill, near Albany. They can be cultivated in common garden soil, by division of the tuberous roots, and by seeds, and should occupy the border.

MILK-WEED.—*Asclepias Tuberosa*.—Whoever has had occasion to travel on the road leading from this city to Irondequoit Bay, in the month of August, could not fail to notice in the fields bordering the road, certain clusters of bright, orange-colored flowers. It is the *Asclepias Tuberosa*, of botanists, a species of milk-weed, by some called Pleurisy-root, a beautiful, showy plant. It has been proved to be an infallible cure for the pleurisy, and is well known to physicians. It is a rather rare plant, and flourishes in a deep sandy loam. We noticed it on the sandy plain a few miles east of the bay, also on the plains east of Brighton, and also on the plains north-west of Albany. It is a hardy, herbaceous and sub-shrubby perennial, flowers in August, is propagated chiefly by division of the root in April, and by seeds, sown in

a hot-bed soil, peat and loam, but most of the latter. A few plants should be introduced in every garden; it will grow without much trouble.

LUPINES.—*Lupinus perennis*.—It is a beautiful, showy plant, a native of our dry, sandy hills and plains, scattered over certain parts of the country from Canada to Florida, and well deserves a place in our garden. Its elegant spike of bluish-purple flowers appears in May, and continues for a month or more. The flowers are arranged in a long terminal spike, on stalks from one to two feet high. As they produce seeds freely, it is easiest to propagate them by that means.

Three or four sorts have been introduced from the north-west coast by DOUGLASS. *L. polyphyllus*, Columbia, 1826. There is another kind which was discovered in 1826 (*L. bicolor*) flowers white and yellow, and very sweet-scented; native of North America.

GOLDEN ROD.—*Solidago*.—This plant is found in nearly all sections of this country, and were it not so common, would probably attract attention. It is of rather coarse habit, but its bright, gold-colored, plume-like flowers are very showy at the back of herbaceous borders, or on the back rows of herbaceous plants in the front of shrubberies. It is propagated by division of the plant in spring, and is a hardy, herbaceous perennial. There are a number of species, all yellow-flowered. It will grow on almost any soil, and when cultivated, is very showy, and would compare favorably with many of our exotic flowers.

THE HAREBELL.—*Campanula rotundifolia*—is a beautiful little delicate plant, and is worth cultivating for its poetic associations. It is of low-growing, and rather spreading habit, and is found generally on the sides of sandy banks or hills, on the borders of pine woods. We noticed it on the side of the ravine as we approached the Newport House, at the Irondequoit Bay. The flowers are bell-shaped, and of an azure-blue color. Flowers in August and September.

SOWING LETTUCE IN THE FALL.—Perhaps the following account of my success in forwarding lettuce plants in the spring may be of profit to some of your readers.

Three years ago this fall I sowed a bed of lettuce about two yards square, designing to have it fairly above the ground when hard frost should come. It came up as I wished, and just before severe weather set in I covered the bed with pea-brush, and on the brush I put my tomato vines, potato tops, &c.

In the spring, when the mulching was removed, the ground was entirely free from frost, and the lettuce plants looked as though they were glad to see how fast they could grow. I had lettuce, that spring, some weeks before that sowed in the spring was fit.

Rochester, N. Y., Nov., 1866.

A.

OLD TREES SHOULD BE PRUNED IN SPRING.—The late S. W. Cole, who generally recommended autumnal pruning for fruit trees, says: "Thirty-two years ago in September we cut a very large branch from an apple tree on account of an injury by a gale. The tree was old, and it has never healed over, but it is now sound and almost as hard as horn, and the tree perfectly hard around it. A few years before, and after, large limbs were cut from the same tree in the spring; and where they were cut off the tree has rotted, so that a quart measure may be put into the cavity."

TWO INTERESTING EXPERIMENTS.

MESSRS. EDITORS.—In compliance with your request in the October number of the *Farmer*, for the experience of farmers, I have concluded to give you and your readers the result of one or two experiments:—

LARGE AND SMALL POTATOES FOR SEED.—Last spring I planted two short rows—twelve hills each—beside each other, one with large potatoes, one in each hill, the other with small ones, about the same weight in each row.

When I raised my potatoes this fall, I weighed and counted the produce of each row, resulting as follows: The large ones yielded 20 pounds, numbering 100 potatoes. The small ones yielded 13 pounds, numbering 155 potatoes. Taking this experiment as a rule, I am inclined to the opinion that large potatoes are preferable for seed. Perhaps I should have put in more seed.

THE WAY I SAVED THE APPLE TREE.—In the winter of 1854, I had three young apple trees completely barked by the rabbits.

I concluded to try an experiment on one of them, thinking, if it would do no good, it would do no harm. I took an old bee box, knocked off its top, opened it at one corner, put it around the tree, packed it completely full of earth, and put a sod on top to make it believe all was right, and the result was, it lived, and the following summer produced its first crop, which was a good one.

Of the other two, which received no attention, one put forth a few sickly blossoms—without leaves—and they soon dried up, and the other made no effort to live, or if it did, it completely failed.

I. H. HAMILTON.

Sandy Lake, Mercer Co., Penn.

PRESERVING APPLES.—If apples are carefully packed in hard wood saw-dust, (how it would be with pine we know not,) they will keep in an open garret thro' our coldest winters. This we have tried, and we know it for a certainty. But in packing, care should be taken that none of the apples touch the barrel nor each other. We have had them open in fine order, when thus packed, long after those in the cellar were rotten, or so withered as to be useless.—*Exchange*.

One would suppose, from the number of receipts in agricultural books and papers for preserving apples, that it was a very difficult process. Apples carefully picked when dry, and put in barrels, without bruising, will keep in a cool cellar, (the less above 40° the better,) as long and as well as in any other way.

SOIL FOR QUINCE TREES.—The Quince is a native of Japan, a country where rains are frequent and abundant. Hence we should infer, what experience teaches, that the quince does best in rather moist, rich, and deep soils, or on a well drained, clay subsoil that is naturally very retentive of water. It may be planted with advantage on the sides of a running stream, provided the bank is high enough to give a good foot-hold of dry soil. On ordinary soils, heavy and repeated manuring, clean and good cultivation and mulching must not be neglected. A pound or two of common salt scattered round each bush is said to be beneficial.

SWEET APPLES.—A correspondent of the *Horticulturist*, writing from Waukesha, Wis., well observes that among the staples of "fruit as a diet," none are more deserving of equeurean encomium than baked sweet apples. They are an agreeable accompaniment to the farmer's tea table that may be enjoyed the year round, except during an interim of a month or two when the small garden fruits are plenty, and can delightfully atone for their absence. The following varieties are mentioned as suited to the climate of that portion of the West:

"A fine collection suiting this soil and climate might embrace—Sweet June and Sweet Bough; Golden, Jersey, and Haskall Sweets; Summer Sweet Paradise and Autumnal Swaar; Bailey, Talman, Ladies, and Green Sweet—and you have them from mid August to May, ripening in the order in which they are named.

There are many phases of digestive disarrangement where acids prove so harmful that the invalid is obliged to abstain almost entirely from fruits—then the luxury of a tender, juicy, sweet apple, is readily discovered and appreciated. Many seem indifferent to all but "sour apples;" they surely cannot know anything about the deliciousness of a really fine dessert sweet apple."

SOWING MOUNTAIN ASH SEEDS.—In one of your late numbers, in answer to an inquiry about planting the seeds of the "Mountain Ash," you recommend putting them in the rotting pit one year. This, I believe is in accordance with most publications on that subject, but my experience has taught me different. I find little more difficulty in growing these seeds than those of the apple. I prefer sowing them thick in beds instead of drills. Let the bed be well prepared and raked smooth, then cover the surface with light mould; sow the seeds on after being washed from the pulp, rake lightly, and the process is finished. Let them grow one season in the seed bed and they are ready to transplant into nursery rows. They vegetate early in the spring, and the young plants being weak, will not come up through a heavy soil, hence the necessity of covering the bed with vegetable mould. G.

SEEDLESS PEAR.—During our recent visit to Philadelphia, to attend the exhibition of the National Agricultural Society, our friend Dr. Brinkle showed us some specimens of a seedless pear. It was first noticed in the market of that city, and traced to an old tree growing in the garden of Samuel Davis, of Haverford, Pa. The fruit is of small size, with a russety skin, and somewhat resembles the Seckel. The flesh is melting and juicy, and the flavor rich and good. Every pear is entirely seedless. If the fruit, under good cultivation, would attain to a medium size, it might well claim the attention of cultivators; independent of its remarkable quality of having no seeds, its general merits are sufficient to render it an acquisition to our collections.—*Magazine of Horticulture*.

TO MAKE A DIOSCOREA BATATAS.—Take a small Irish potato, wet and weedy: add to it one turnip, tolerably stringy, and not too rank; splice them together lengthwise, with a morning-glory vine on top; cultivate strenuously for two years, puffing it in agricultural papers; then dig up one root, (large crops!) six inches long and three round (immense size!) boil and eat—if you can.—*Correspondent of the Homestead*.

TWO MODES OF PLANTING AND MANAGING FRUIT TREES ILLUSTRATED.

"LOOK HERE UPON THIS PICTURE, AND ON THIS."



Farmer SLAPDASH having purchased some apple trees from a pedlar, because they were cheap, proceeds to plant them in an old meadow, and hits on a novel and expeditious method of making the holes with Squire FORECAST's post-hole auger, borrowed for the occasion.



Farmer FORECAST, having previously underdrained, subsoiled and manured the land, plants a few carefully selected fruit trees in large holes, carefully spreading out the small fibrous roots, and covering them with fine, light soil, and then stakes, prunes and mulches them.



Farmer SLAPDASH, finding the trees do not succeed so well in grass land as in the cultivated field of Farmer FORECAST, breaks up his orchard, and, in order to shade the land, sows it to oats.



Farmer FORECAST puts a little fresh mulch round the trees, and sows nothing on the land but a few beans and other hoed crops, in rows, and keeps the soil loose and free from weeds by the frequent use of the cultivator.



Farmer SLAPDASH makes up his mind that fruit culture is a humbug.



Farmer FORECAST, his wife and his bright, healthy children are of a different opinion.

Ladies' Department.

ORIGINAL DOMESTIC RECIPES.

Two of our fair correspondents send us the following recipes, which we will guarantee are reliable and good.

SPONGE CAKE.—Take 4 eggs—the whites and yolks beaten separately; 1 cup of white pulverized sugar; 1 cup of flour; $\frac{1}{2}$ teaspoonful of cream tartar; $\frac{1}{4}$ of soda. Flavor to the taste.

SODA CAKE.—3 eggs; 2 cups of pulverized sugar; $\frac{1}{2}$ cup of butter; 1 cup of sweet milk; 1 teaspoonful of soda; two of cream tartar. Flavor with lemon

LEMON PIES.—Beat with the yolks of 4 eggs 2 tablespoonsful of melted butter; four of white sugar; the juice and grated rind of two lemons. Put into a rich paste and bake. Then beat the whites to a froth, adding two tablespoonsful of sugar. Spread it on the pies when done, and put them in the oven again for about three minutes. The above is for two pies.

FRUIT JELLIES may be preserved from mouldiness by covering the surface $\frac{1}{4}$ of an inch deep with finely pulverized loaf sugar. Thus protected, they will keep 5 years.

TO CURE THE QUINCY.—Make a poultice of common white Lima beans, and apply it to the throat hot.

TO CLEAN KID GLOVES.—Wash them in a mixture of equal quantities of Ammonia and Alcohol. Then rub them dry. The above solution will also remove stains and grease from silk and cloth.

We are decidedly down on *women milking cows* at any time, *busy* or not *busy*.—JENNY AND TILLIE.

FOR HONEY.—Take 10 lbs. of sugar, dissolved in the same weight of water; 2 lbs. of honey; when cooling, stir in 10 drops of peppermint.

FOR NECTAR OR SODA.—To 2 qts. of boiling water, add 1 pt. of molasses and 4 lbs. of coffee sugar. Let it boil together, and skim it, add 4 oz. of Tartaric acid, after which let it boil ten minutes. Then strain it, and when cold, add the whites of 6 eggs, well beaten, and cork up.

For use, add two tablespoonsful of the mixture to a tumbler of water, stirring in it, at the moment of drinking, a lump of soda a little larger than a pea.

FOR PICKLING PEACHES.—For 4 lbs. of fruit, take 3 lbs. of sugar, dissolved in one pt. of vinegar. Skin the fruit by putting it in hot salaratus water. Take just water enough to slightly cook, then add the vinegar and spice, cooking part at a time.

PICKLING PLUMS.—Weigh your plums, take the jar you wish to put them in, and lay some spices in the bottom, then alternate layers of plums and spices until the jar is full—cinnamon, cloves and allspice are used unground. Allow 1 lb. of sugar to 3 lbs. of fruit. Take the sugar and a little vinegar, heat together, and pour over them. Then set the jar in a kettle of cold water, over the fire, and retain it there until boiling hot, or the plums are soft. Do not add too much vinegar, for more can be added if not sufficiently tart.

PLUM CAKE.—1 lb. of butter, 1 do. of flour, 1 do. of sugar, 10 eggs, 3 lbs. of raisins, 4 lbs. Zante currants, 2 nutmegs, 1 oz. cinnamon, $\frac{1}{4}$ oz. cloves, $\frac{1}{2}$ lb. of citron, $\frac{1}{2}$ oz. mace. For this, baked in 1 cake, 4 hours, in moderately heated oven.

FRUIT CAKE.—Take 4 cups of flour, 3 of sugar, 3 eggs, $\frac{1}{2}$ lb. of butter, 1 cup of milk, 1 teaspoonful of salaratus, 2 nutmegs, 2 lbs. raisins, 1 lb. Zante currants. For this, baked in 1 cake, bake 2 $\frac{1}{2}$ hours.

TO MAKE POTATO YEAST.—Take 2 qts. of hops, boil until the strength is out, leaving water sufficient to scald one quart bowl of grated potatoes. Strain it upon the potatoes, and while cooking stir it, adding a handful of salt and two cups of molasses.—When cooked sufficient, it will be a thick paste.—Cool it in a stone jar, and when cool enough, add your yeast for rising.

TURNPIKE, OR INDIAN YEAST.—Take 2 qts. of hops, boil well, and when hot, pour over the quantity of Indian meal you wish to scald. When cool, add your yeast, and when perfectly light, stir in as much meal as you can with a stick, letting it again rise, so doing until you get it stiff enough to make up into cakes, then make them up and let them dry.

TO PICKLE TOMATOES.—Pick not too ripe tomatoes, prick them, and throw them in salt and water, and let them remain 8 days. Then remove, and turn on weak vinegar, letting them remain 24 hours.—Add to a peck of tomatoes, 12 large onions, $\frac{1}{2}$ oz. of cloves, 1 oz. black pepper, and same of mustard, and then add strong vinegar.

TO KEEP TOMATOES.—Put tomatoes in a stew pan over a fire, until boiling hot, then put them in a hot jar and seal up.

FOR PICKLING.—Take 1 peck of green tomatoes, chop fine, letting the water drain from them when chopped or chopping; also, chop fine 12 large onions and 12 large peppers. Put together, adding vinegar enough to cover, with a little salt.

TO PRESERVE PEACHES.—Take the peaches, a small part at a time, put a very little water to them, and just let them boil, then can them, sealing while hot, with soft solder. The water the first are done in will do them all, taking up a little liquor each time. M. S. B.—*Aurora, N. Y.*

ON MAKING BREAD.—Bread is said to be the staff of life—which we will suppose to mean *good* bread. Then how essential is the making of it, and how many, *very* many, are there, who make that which is more like a broken reed!

The first essential to good bread is good flour.—The second, good yeast, and with all, good judgment.

Potato yeast is the best except in very hot or very cold weather, when it is best to use turnpike or Indian.

Take half the quantity of new milk that you wish to sponge with, and pour it on the flour boiling hot. Then take as much cold water, stirring to a stiff sponge, adding $\frac{1}{4}$ of a cup of yeast. Knead up in the morning, and let it rise. When light, break off parts of the dough without kneading, and place in pans. When it begins again to puff up, before rising, put in to bake. One hour will bake a large loaf.—This quantity of yeast will make 6 loaves. A handful of salt should be added for that number of loaves. M. S. B.—*Aurora, N. Y.*

APPLE SAUCE.—Pare, quarter and core nice sweet apples; dry them on a rack made of sacking, suspended over the kitchen stove. When dry, wash them and stew them in new cider; when done, the cider will be sufficiently boiled to keep until warm weather. A few quinces improve the sauce.

Editor's Table.

Premiums for Short Essays.

IN the hope of calling out the opinions of the readers of the *Genesee Farmer*, we have determined to offer a BOOK of the value of ONE DOLLAR, for the best article (not to exceed one page of the *Farmer*) on each of the following subjects:

- On the Management of Sheep;
- On the Management of Swine;
- On the Management of Milch Cows;
- On the Management of Horses;
- On the Management of Young Stock and Working Cattle;
- On the Relative Advantages of Employing Horses or Cattle in Farm Labor;
- On Cheese Making;
- On Butter-Making;
- On the Cultivation of Winter Wheat;
- On the Cultivation of Spring Wheat;
- On the Cultivation of Rye;
- On the Cultivation of Barley;
- On the Cultivation of Oats;
- On the Cultivation of Peas;
- On the Cultivation of Beans;
- On the Cultivation of Indian Corn;
- On the Cultivation of Broom Corn;
- On the Cultivation of Millet;
- On the Cultivation of Onions;
- On the Cultivation of Crops for Soiling Purposes;
- On Growing Clover Seed;
- On Growing Grass Seeds;
- On the Cultivation of Potatoes;
- On the Cultivation of Turnips, Ruta Bagas, Mangel Wurzel, and other Root Crops;
- On the Best System of Rotation;
- On the Management and Application of Barn-Yard Manure;
- On the Use of Lime as a Manure;
- On the Use of Unleached Ashes as a Manure;
- On the Use of Leached Ashes as a Manure;
- On the Use of Salt as a Manure;
- On the Use of Peruvian Guano as a Manure;
- On the Use of Superphosphate of Lime as a Manure;
- On the Most Economical Mode of obtaining Fertilizing Matter other than Barn-Yard Manure;
- On any Insects Injurious to the Farmer;
- On the Advantages of System in Farming Operations;
- On the Advantages of Forethought in Farming Operations;
- On Cutting Hay, Corn-Stalks, and other Fodder, for Horses and Cattle;
- On the Best Means of Destroying Weeds;
- On the Management of Permanent Grass Lands;
- On Underdraining;
- On Subsoil Plowing;
- On the Advantages of Stirring the Soil in Dry Weather;
- On Irrigating Grass Land;
- On the Best Means of Destroying Mice, Rats, and other Vermin;
- On the Best Plants for Hedges—their Management, &c.;
- On the Management of Woodland;
- On Planting Trees on the Prairies, for Shelter, Fuel and Timber;
- On the Management of a Prairie Farm—Commencing in its Natural State;
- On the Best Method of Fencing a Farm;

On the Benefits of Agricultural Fairs;
On the Benefits of Farmers' Clubs, and the Best Plan for their Organization;
On the Influence of Agricultural Papers, and the Duty of Farmers to Write for them.

HORTICULTURAL SUBJECTS.—On the Cultivation of Pears;

On the Cultivation of Apples;
On the Cultivation of Peaches;
On the Cultivation of Plums;
On the Cultivation of Small Fruits—Strawberries, Raspberries, Currants, Gooseberries and Blackberries;
On the Cultivation of Cranberries.

The advantages of shelter for Gardens, and the best means of providing it;

For the best answer to the question, "Why do Farmers so generally neglect their Gardens? and the best means of rectifying the evil;

For the best answer to the question, "Is the Cultivation of Fruit on a more extended scale desirable?"

On the Management of a Farmer's Garden;

SUBJECTS FOR THE LADIES.—For the best Dozen Domestic Recipes;

On the Cultivation of Flowers;

For the best reasons why our Agricultural Societies should *not* offer premiums for a public exhibition of Lady Equestrianism;

For the best article on the other side of the Question;

For the best answer to the question, "Is a residence in the Country or City most conducive to high mental culture, beauty of person, health, happiness and usefulness?"

For the best answer to the question, "Is it right to ask the women folk to milk the cows during the busy season? (*Open to both sexes*)

On drying Apples, Peaches, Plums and other Fruit;

For the best answer to the question, "What can mothers and daughters do to make farm life attractive to their sons and brothers, and prevent them from leaving the farm to engage in mercantile or professional pursuits?"

It is desirable that the articles be as *short* as possible,—It is far more difficult to write a short article than a long one; and *other things being equal*, brevity will be considered as a mark of excellence. Write only on one side of the paper, and be sure and do not have the lines too close together. Many persons, to save a cent's worth of paper, put us to a dollar's worth of trouble in preparing their manuscript for the printer, and all because it is written too closely. Those who are not in the habit of writing for the printer, should write on ruled paper, and *skip every other line*.

The articles will be submitted to competent judges, and the premiums announced and paid as soon as they make their decision. *All articles must be sent in by the first of February.*

KIND READER! if you have been pleased with the *Genesee Farmer* during the past year—if you think it is doing anything to advance the great agricultural and horticultural interests of the country, aid us by sending in your subscription for another volume as early as possible, and if you can induce any of your neighbors and friends to subscribe we venture to say they will not regret it. Speak to them at once. We will gladly send show-bills and specimen numbers to any who are disposed to raise a club for our next year's volume.

TO CORRESPONDENTS.—Many excellent communications have been received too late for this number. They shall appear next month.

THE NEXT VOLUME OF THE GENESEE FARMER.—The present number concludes the Seventeenth Volume, Second Series, of the *Genesee Farmer*. We will say nothing of its value. Our readers are the best judges on this point. Such as have been pleased with the paper the present year will, we hope, subscribe immediately for our next volume. We do not wish to lose a single reader. Our circulation the present year has been nearly doubled. Encouraged by this greatly increased circulation, we have determined to make great improvements in our next volume, and also to offer an enlarged list of premiums.

By a little timely effort, our friends will enable us to double our circulation the coming year. The old prejudice against "book farming" has in a great measure died out, and there are very few farmers who would not willingly subscribe to an agricultural paper, were they requested to do so. The *Genesee Farmer* is so cheap that all can afford to take it, even though they already subscribe for several other papers.

At many post offices, we have but one or two subscribers. Will not such read over our liberal list of premiums, in the advertising columns, and then get us up a club? There is no way in which a young man can more easily obtain a good agricultural library.

We have never before offered "January Premiums." Thousands of our readers do not subscribe until the winter is nearly past, and we find that the number of such is increasing every year. To counteract this, we offer these January premiums. Those who take a January premium can also compete for the April premiums. There are so many premiums offered, that no one who tries can fail to take at least one, and may obtain two.

All our friends who act as agents, do it simply with a desire to promote agricultural and horticultural improvement in their respective neighborhoods. Hence it is that so few compete for the premiums. So few, indeed, make any effort to obtain the premiums, that we have thought of discontinuing them, but have concluded to offer them once more—and to greatly enlarge the list. Let all who wish for a good Agricultural Library make a little effort to get subscribers for the *Genesee Farmer* for 1857, and they shall have it, and one which they will not feel ashamed of.

Now is the time to commence making up your list, before other agents take the field.

We will gladly send show bills and specimen numbers to all who are disposed to act as agents.

ONIONS SHOULD BE THOROUGHLY BOILED.—A quaint old English writer says of onions: "Being rawe they nourish not at all, and but a little though they be boiled." Uncooked onions are certainly difficult of digestion, but when well boiled they are not only palatable but quite nutritious. Indeed, analysis shows that they contain nearly as much nutriment as the potato, and probably as great an amount of food can be obtained from an acre of onions as from any other of our common esculents. The witty and satirical Dean SWIFT mentions another reason for having onions well boiled:

"This is every cook's opinion—
No savory dish without an onion;
But lest your kissing should be spoiled,
Your onions should be thoroughly boiled."

Onions constituted an important article of food long before the exodus of the Israelites from Egypt; for among the complaints made to MOSES in the wilderness was, that they were deprived of the leeks, onions and garlic of which, said the murmurers, "we remember we did eat in Egypt freely."—Numbers xii: 5. Egypt is to this day famed for the superiority and sweetness of its onions.

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY, FOR 1857.—This beautiful work, of 144 pages, is now ready.

It contains, besides a great variety of matter interesting to every farmer and gardener, articles on Rural Architecture, with several beautiful designs of cottage, suburban, and farm houses, prepared expressly for the *Rural Annual*: On laying out a small Fruit and Kitchen Garden, with a list of the best varieties of fruits, directions for the preparation of the ground, &c., with a fine engraving: On the cultivation of Strawberries, Raspberries, Blackberries, Currants, Gooseberries, &c., with engravings and descriptions of the best varieties, &c.: On the management of Hedges, with illustrations of the best modes of training, &c.: On the Kitchen Garden: On the management of Grapes in cold houses, with engravings showing the best mode of training, &c.: On planting an Apple Orchard, best varieties for different localities, &c.: On the Architecture of Lodges, School Houses, &c., with two beautiful engravings: On building a Stable, with plan and description: On the breeds and management of Poultry—profusely illustrated: On Ornamental Planting, Landscape Gardening, &c., with numerous illustrations: On the cultivation of Pears, &c. Also, a corrected list of Fruits recommended by the American Pomological Society, with lists of Nurserymen and Agricultural Implement Makers in the United States and Canada. The whole comprising a work which for usefulness and beauty should be in the hands of every one interested in Rural Pursuits.

We send it, postage paid, for TWENTY-FIVE CENTS a copy.

In Clubs of Eight, we send the *Genesee Farmer* and *Rural Annual* for FIFTY CENTS the two.

To every one sending us eight subscribers to the *Genesee Farmer*, at the lowest club terms of THIRTY-SEVEN AND A HALF CENTS each, we will send one copy of the *Rural Annual* for their trouble.

CHINESE SUGAR CANE.—We have received a communication from Col. PETERS, of Atlanta, Ga., detailing the results of his experiments in "Syrup-making from the Chinese Sugar Millet." The yield of fodder per acre was about 1,200 lbs.; of seed, 25 bushels, of 36 lb. per bushel. The canes yielded 407 gallons of syrup per acre. Col. P. says: "I am satisfied that this plant will enable every farmer and planter in the Southern States to make at home all the syrup required for family use; and I believe that our chemists will soon teach us how to convert the syrup into sugar, for export, as one of the staples of our favored climate."

ROTATION OF CROPS.—There is no absolute necessity for a rotation of crops, where an abundance of manure can be obtained. Indian corn, wheat, onions, potatoes, sugar cane, &c., have been cultivated for an indefinite period on the same land. One of the principal advantages of rotation is in the cultivation of plants which improve the soil, or exhaust it less than other plants. A judicious alternation of crops enables the cultivator to attain the greatest amount of vegetable production, with the least manure, and in the shortest time.

TO OUR CANADIAN FRIENDS.—We shall continue to pre-pay the American postage on our next volume. So that, as agricultural papers (that contain no news) go free in Canada, you will get the *Genesee Farmer* free of all postage.

MISSING NUMBERS.—We will gladly supply any missing or damaged numbers of the *Genesee Farmer*, to any who wish to preserve the volume.

COAL AND COAL ASHES AS MANURE.—In reply to a correspondent, we would say that coal ashes contain very little available food of plants. They are valuable principally for their mechanical effects on the soil,—rendering a heavy clay light and porous. Unlike wood ashes, they may be mixed with guano, or superphosphate with safety. English farmers use all their coal ashes to mix with these light artificial manures. It enables them to sow them more evenly. For radishes, parsnips, &c., coal ashes are particularly valuable in loosening the ground, and some recommend them as specifics for these crops.

Coals sell for two and a half to four cents per bushel in the neighborhood of our correspondent, and he wishes to know if they would be worth this for manure. We shall be glad to hear from any who have used them. Coals probably contain sufficient food of plants to render them worth this sum, *if it was in an available condition*. All matter must be decomposed and rendered soluble before it can be taken up by plants, and we should think stone coal would resist decomposing influences for a long time.

MICE AND FRUIT TREES.—The destruction of fruit trees by mice, last year, was greater than was ever before known. At the present time, the country swarms with mice, and if we should not have an open winter, or a "January thaw" they will do immense damage. One of the most expeditious means of protecting fruit trees from their depredations, is to remove all grass and weeds from round the trees, and then bank them up with soil. Two hundred can thus be done in a day. The soil should be thrown up from one to two feet, or even higher up the stem. It should be higher than the snow. This is not a "certain remedy," in all cases, but it is the best, all things considered, that we are acquainted with. Stamping down the snow round the trees, is the next best means of preventing injury from mice.

SHARP.—A correspondent, (from the handwriting, evidently a lady,) in reply to our offer of a dollar book for the best essay on "Cutting Hay, &c., for Stock," sends us the following:

"THE BEST METHOD OF CUTTING HAY, &c.—Put the hay into the cutter, turn the crank, and keep your fingers out."

You shall have the book. What shall we send you?

GODEY'S LADIES' BOOK.—This popular Magazine, for December, is on our table. It is the best number ever issued; containing a beautiful frontispiece and a large number of fashion-plates, designs, &c., executed in the best style, and besides abounds with tales and useful reading, recipes, &c., interesting to every lady. See prospectus in this number.

Up to this date, (Nov. 25,) we have had remarkably mild and dry weather. A better time for fall plowing, under-draining, corn husking, &c., could not be desired. Wheat in some instances is too forward, and will require eating down, but as a general thing the crop never looked better.

PREMIUMS.—Read over our list of Premiums for subscribers to our next volume. It is greatly enlarged. The January Premiums are an entirely new feature. No one who tries can fail to take at least one Premium. You may by a little effort get \$70; you are *sure* of something.

CHEAP READING FOR FARMERS.—One volume of the *Genesee Farmer* contains 384 pages, the *Rural Annual* 144 pages. In clubs of eight, we send the two for fifty cents. *Five hundred and twenty-eight pages for half a dollar!* Can any one desire cheaper reading?

BONE DUST.—The late A. J. DOWNING observed that "bone dust has not generally proved as valuable here as in England." This is true,—simply for this reason: The base of bones—phosphate of lime—has a far greater effect on turnips than on any other crop, and is applied to this great "sheet anchor of British agriculture" to an enormous extent. In this country we grow comparatively few turnips, and hence—as bones or phosphates have little immediate effect on any other crop—manures containing a large proportion of phosphates are not generally beneficial here, and are not used to any great extent. It is not owing to climate, but to the crops, that bone dust has not "generally proved valuable" in this country.

LARGE CROPS OF POTATOES.—There are many instances on record where immense crops of potatoes have been raised. We know a careful and accurate British farmer who states that he has raised *six hundred bushels* of potatoes per acre. Three hundred bushels is an average crop in Great Britain. In this country, since the prevalence of the disease, one hundred bushels per acre is perhaps not far from the average, though double that quantity is not unfrequently produced. The *Ohio Farmer* says that T. B. CROSBY, of Euclid, Ohio, raised the past season, on a *half acre* of ground, 240 bushels of potatoes by measure, and by weight, 264 bushels. Who can beat this?

"PLANTING AND MANAGING FRUIT TREES ILLUSTRATED."—This is a new feature in agricultural literature. We hope to give many such sketches during the next year, and shall be thankful for hints on the subject from our correspondents. Of course we have no SLAPDASHES among our readers—they all belong to the FORECAST family! There are, however, plenty of the SLAPDASHES in every neighborhood, and it *might* do them good to have a look at this picture, and "see themselves as others see them." Farmer SLAPDASH never reads an agricultural paper, but he might be induced to *look* at one. Suppose you try him, reader!

THE SUGAR CANE EXPEDITION.—An expedition has been fitted out, under the direction of the Commissioner of Patents, to proceed to South America for the purpose of procuring a fresh supply of cuttings of sugar cane for experiment in the Southern States. The United States brig Release sailed from New York on the 5th ult., having on board the necessary lumber and materials for one thousand and eight boxes, each about three feet in length, in which to pack the sugar cane cuttings.

THE THOUSAND DOLLAR PRIZE FOR THE BEST MOWING MACHINE AWARDED.—The great prize of \$1,000, offered by the Massachusetts Board of Agriculture, for the best Mowing Machine, has been awarded to HEATH'S MOWER, manufactured by D. C. HENDERSON & Co., of Sandusky City, Ohio. The trial took place at Worcester, Mass., but the particulars have not yet been made public.

SHORT-HORN HERD-BOOK, No. 3.—L. F. ALLEN, Black Rock, N. Y., is now receiving pedigrees for this work. They should be sent in immediately.

The lady who sent us the article on the cultivation of Jerusalem Artichokes shall have the book she named, if she will send us her post office address.

WE must look to farmers' wives and daughters for the social improvement of the rural districts.

Notices of New Books, Periodicals, &c.

THE LIFE OF CHARLES SUMNER, with Choice Specimens of his Eloquence, a delineation of his Oratorical Character, and his great speech in Kansas. By D. A. HARRIS, author of "Eminent Orators and Statesmen," &c., &c. New York, Dayton & Burdick; G. F. Needham, Rochester, N. Y. 1856.

This is a handsome volume of 330 pages, which will be read with pleasure by the friends and admirers of the "Champion of Freedom."

DOG & GUN; a few loose chapters on Shooting, along with which will be found some Anecdotes and Incidents. By JOHNSON J. HOOPER, of Montgomery, Alabama. New York, C. M. Saxton & Co., Agricultural Book Publishers, 140, Fulton-st. N. Y.

From a cursory examination, we judge this to be an interesting and useful work. It contains chapters on The Gentleman's Amusement; How to choose a good gun; Charging the Gun; The Setter and Pointer; Field Training; Advice to Sportsmen; Shooting Quail, Ducks, Part-ridge, Woodcock, Snipe, &c. Treatment of Distemper in Dogs, &c. We will notice more in detail in a future number. Sent, postage paid, for fifty cents.

THE RURAL POETRY OF THE ENGLISH LANGUAGE. Illustrating the seasons and months of the year, their changes, employment, lessons and pleasures, Topically Paragraphed, with a complete index: By JOSEPH WILLIAM JENKS, (late Professor of Languages in the Urbana University, Ohio.) Boston, John P. Jewett & Co.; Cleveland, Jewett, Proctor & Worthington; New York, Sheldon, Blakeman & Co. 1856.

The appearance of this elegant work is a pleasing indication of the awakening interest manifested at this time by nearly all classes of the community, in Rural subjects. The object of the compiler has been to bring together in one volume, in an attractive form, the chief rural poems of the English language. He has succeeded most admirably. The work will do much to give farmers, their sons and daughters, a higher appreciation of the advantages of country life, and of the dignity of rural avocations. It should have a place in every farmer's library.

MORGAN HORSES: A Premium Essay on the Origin, History and Characteristics of this Remarkable American Breed of Horses; tracing the pedigree from the original Justin Morgan, through the most noted of his pedigree, down to the present time, with numerous portraits. To which are added Hints for Breeding, Breaking, and General Use and Management of Horses, with Practical Directions for Training them for Exhibition at Agricultural Fairs. By D. C. LINSLEY, Middlebury, Vt. New York, C. M. Saxton & Co., Agricultural Book Publishers, No. 140 Fulton st. 1857.

We have received this work just as we go to press, and from a slight examination, expect to derive much information from a more thorough perusal. The book is well illustrated and got up in superior style, and is alike creditable to the publishers and the author. The book received the first premium from the Vermont State Agricultural Society, and the Committee, in making the award, "commend it to the particular notice of the Society, as one eminently adapted to the wants of this State, (Vt.) and as supplying a desideratum long felt, both in regard to the true history of the Morgan Horse, and in respect to the best methods of its perpetuation."

The book is sent, postage free, for one dollar.

Inquiries and Answers.

BALSAM FIR TREE.—Two years ago I imported some Balsam Fir trees, and set them in the yard for shade. I cannot see that they have improved but very little in their growth. Can you or any of your subscribers inform me what method I should pursue to improve their growth.—A. C. SOUTHWORTH, Lanesville Centre, Susq. Co., Pa.

LOCUST TREES FROM SEED.—Please inform me, thro' your valuable paper, how to raise the Locust tree from the seed, the proper time to plant, &c., &c. J. L. MILLER.—East Hanover, Pa.

SAWDUST AND MUCK FOR FRUIT TREES.—Will it pay to draw sawdust a mile to put around young or old fruit trees; or is it worth drawing on to any kind of ground? My orchard is three quarters of a mile from home. There are a number of pond holes on it; one is 30 feet across and 10 feet deep, full of decomposed vegetable matter. I have drawn out two hundred loads on to the orchard, and put a good load around each tree, and covered part of the ground with it. Will this pay? S.—Erte, Pa.

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS—Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

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ANDRE LEROY'S NURSERIES, AT ANGERS, FRANCE.

MR. ANDRE LEROY, Member of the principal Horticultural and Agricultural Societies of Europe and America, and lately promoted by the French Emperor to the rank of Knight of the Legion of Honor, for the best Nursery products exhibited at the World's Exhibition at Paris, begs leave to inform his friends and the public, that he has just published his new Catalogue for 1856, being more extensive and complete than that of any similar establishment on this Continent. It contains the prices, &c., of all the Fruit, Ornamental and Evergreen Trees, Shrubs, Roses, Camellias, Stocks, Seedlings, &c., &c., with the necessary information for importing the same. His experience in putting up orders for America, and the superior quality of his plants have been too well appreciated during a period of ten years, to require other comment. The Catalogue can be had on application to the undersigned Agent, who will also receive and forward the orders.

Mr. A. Leroy is happy in being able to state that his Nurseries were not reached by the inundation which so recently devastated a portion of the district in which they are situated.

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F. A. BRUGUIERE, Sole Agent,
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Oct. 1—4t.

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December 1, 1856.—1t.

LIGHT HOUSE ISLAND, an Original Nov.lette, by the author of "Zillah," &c., will be published in the *Saturday Evening Post*. See Prospectus in another place.

Prospectus for 1857.

THE SATURDAY EVENING POST.

ESTABLISHED AUGUST 4th, 1821.

THE publishers of this old and firmly established paper, take pleasure in calling the attention of the public to their programme for the coming year. Surfeited with politics, the claims of literature will be more than ever appreciated by the reading world. We have, therefore, already made arrangements with the following brilliant list of writers:

WM. HOWITT (*of England*), ALICE CAREY, T. S. ARTHUR, MRS. SOUTHWORTH, AUGUSTINE DUGANNE, MRS. M. A. DENISON, the author of "Zillah," &c.

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An original Novelet, by Mrs. MARY A. DENISON, author of "Mark, the Sexton," "Home Pictures," &c.

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11.

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Genesee Farmer for 1857.

THE circulation of the *Genesee Farmer* during the present year has been nearly double what it was in 1855. Encouraged by this success, we have determined to make great improvements in the next volume, and to spare neither labor nor expense in our efforts to make this *Pioneer Agricultural Journal* still more worthy of that extensive patronage it has so long enjoyed.

The *Genesee Farmer* is not a reprint. Every line is set up for it, and for it alone. We believe this is true of no other *fifty cent* Agricultural Paper in the country. The *Genesee Farmer* is beyond all doubt the **CHEAPEST AGRICULTURAL AND HORTICULTURAL JOURNAL IN THE WORLD.**—In Clubs of eight, you get **THREEHUNDRED AND EIGHTY-FOUR LARGE, AND CLOSELY PRINTED PAGES**, illustrated with numerous and costly engravings, for the small sum of *thirty-seven and a half cents*. Surely no farmer, for the future, will be without an agricultural paper. *If there is any farmer who cannot afford to pay so small a sum, we will, on application, make him a present of the paper for a year, for we are certain he cannot afford to be without it.*

The large circulation of the *Genesee Farmer* is mainly due to the voluntary efforts of the friends of agricultural improvement in all parts of the country. We cannot reward them. The consciousness of their disinterested labors must be their recompense. Wishing to do what we can, however, we offer the following

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We are particularly desirous that our friends **SHOULD FORM CLUBS EARLY**. There are thousands of our readers who every year put off renewing their subscription till several weeks or even months of the new year are gone by, and who are thus without the paper during the most leisure season of the year. To rectify this as much as possible, we offer the following liberal

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WILLIAM HOWITT, the celebrated English author, writes for *The Saturday Evening Post*. TALLENGETTA, OR THE SQUATTER'S HOME. See Prospectus in another place.

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T. S. ARTHUR writes for the *Saturday Evening Post*. THE WITHERED HEART. See Prospectus in another place.

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